The Builder.

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ILLUSTRATIONS.

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Stables, Northleach.—Mr. John Belcher, Architect ..... *Double-Page Photo-Litho.*
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*The Life of Sir William Siemens.**

THE interest which the general public take in any new invention depends not so much upon the actual ingenuity and far-sightedness of the individual inventor, as upon the practical bearing of the discovery on everyday matters, and the facility with which its effects can be brought home to the average intellect. Nor must the practical bearings of the discovery be too remote, or their connexion with it will be lost sight of by all but those who thoroughly understand it. For instance, there has probably been no more brilliant discovery in the present century than that made by Oersted of the effect upon a magnetic needle of bringing into its neighbourhood an electric current, for from it have resulted all the practical developments of electro-magnetism which are revolutionising our habits in the present day; yet for one person in the Vienna Exhibition five years ago who was interested in the very needle which Professor Oersted used, there were probably ten thousand who examined and endeavoured to make themselves acquainted with the dynamo-machines, the railway locomotive, and the brilliant arc lights, all actuated by that mysterious power which we call electricity. Although Oersted's discovery was the germ which fructified into all these wonderful inventions, it was too remote to be more than the subject of a passing curiosity. Thus it frequently happens that what may be called the secondary inventor,—the man who seizes hold of and adapts to some practical end the brilliant discovery of the scientific student,—reaps far more glory than the man to whom it is really due. Sir William Siemens was one of the few men who combined in himself both the acute theorist whose active brain could devise new combinations of scientific principles, and the clever, painstaking adapter whose mechanical skill and accurate knowledge enabled him to embody his abstract ideas in practically useful inventions. The life of such a man must be of more than usual interest to the world, and in the work under notice Dr. Pole has given us not only an account of the scientific inventor, but, although inventions form the subject of the bulk of the book, a vivid picture of the man himself.

Carl Wilhelm Siemens, who was one of a family of fourteen children, was born on April 4, 1823, at Lenthe, a small place near Hanover, where his father occupied the position of a well-to-do farmer. An interesting account is given of his family, three of whom were in intimate business relations with the subject of this memoir all his life. In fact, his eldest brother, Werner Siemens, who was originally in the army, and who now enjoys a world-wide reputation as an electrician and man of science, was more like a father to him and his brothers; and the high position attained by the firm of Siemens Bros. in England, and Siemens & Halske in Germany, is largely due to the enterprise, skill, and judgment of this gentleman. This judgment was never more strikingly displayed than when he opposed the design which his parents had formed of sending William to a merchant's office, and induced them to allow him to prepare himself for mechanical and scientific pursuits. Accordingly, in 1838, William was sent to a Gewerbe-Schule in Magdeburg, where Werner was in garrison. In 1841 he removed to the University of Göttingen, where he stayed about a year, and during this time he must have had nearly all the theoretical scientific teaching that he ever obtained, for at Magdeburg the scientific appliances were absurdly few. In 1842 he obtained a place as pupil in Count Stollberg's machine-factory in Magdeburg, where his mechanical genius soon asserted itself, for in the first six months he sent his brother a description of a new kind of valve-gearing which he had invented for steam-engines. About this time Werner Siemens had patented a process of electro-plating, and he conceived the idea of sending his brother William abroad for the purpose of pushing the invention. Accordingly, in the early part of 1843, after spending a month in Hamburg, where, by the application of his new process, he was enabled to realise sufficient money to take him to England, he arrived in London. No words could better describe the spirit of the young German mechanic than those which he himself used nearly forty years afterwards when addressing an audience in Birmingham, and alluding to this, his first start in life. He said:—"A spirit of enterprise came over me so strong that I tore myself away from the narrow circumstances around me, and landed at the East-end of London with only a few pounds in my pocket, and without friends; but an ardent confidence of ultimate success within my breast." He obtained an introduction to Messrs. Elkington, of Birmingham, who were much struck with his versatility and ingenuity. After further consultation with his brother Werner, he was able to convince Messrs. Elkington of the practical merits of the new processes, and they most liberally paid him nearly 1,500*l.* for his invention. In after-years he used jokingly to allude to the fact that before he had completed the negotiations with the Elkingtons his ready-money was reduced to half-a-crown. It must be a source of legitimate pride to the members of this firm to think that by their liberality they were the undoubted cause of the settlement in England of the man who became the foremost mechanical inventor of the century, and whose name will always be held in the highest honour in his adopted country.

It is not surprising that this quite unexpected success somewhat turned the heads of the whole family; they evidently looked upon England as an El Dorado for inventors, and in the following year we find William again in this country with two new patents,—one for a contrivance for regulating the rate of motion of steam-engines, called the "Chronometric Governor"; and another for a new method of obtaining facsimiles of drawings, letterpress, &c., called "Anastatic Printing." The modest value of 86,000*l.* was placed upon these inventions by Mr. Siemens, but he soon found out—as Werner told him—that "parental love is a beautiful thing, but it makes the sharpest eyes blind to the defects of the progeny," and after two years' attempt to work the "Anastatic Printing," with increasing worry and anxiety and the loss of all his capital, he finally was only too glad to get rid of the whole business. The Chronometric Governor never turned out a practical success for steam-engines, but it has been applied in a somewhat modified form at the Royal Observatory, Greenwich, to the Chronograph clock and to the water-clock for driving the large equatorial, and in both cases it is still in successful operation.

It was in 1849 that Mr. Siemens first brought his genius to bear upon a subject that afterwards constituted the main work of his life, viz., the economising of heat in the processes of manufacture. He first turned his attention to the steam-engine, devoting several

* "The Life of Sir William Siemens, F.R.S., D.C.L., LL.D." By William Pole, F.R.S., Hon. Sec. of the Institution of Civil Engineers. (London: John Murray, 1888.)

years of labour and great ingenuity to what was called the regenerative steam-engine, the principle of which, shortly stated, was that the steam, after doing its work, deposited a certain portion of its heat in a kind of respirator, where it could again be taken up, instead of passing away and becoming lost. In connexion with this invention, Mr. Siemens read his first paper before a scientific body—the Society of Arts; the idea was generally approved, and he was awarded the Gold Medal. In spite, however, of all its merits, it never became a practical success, and its failure was a source of keen disappointment to Mr. Siemens; but there can be little doubt that his work and experiments with this engine were of the greatest use to him, as they gave him such an intimate knowledge of all heat processes that he was afterwards able, by means of his regenerative furnace, to completely revolutionise many industrial pursuits, and to obtain temperatures previously undreamt of.

The regenerative furnace was a much simpler idea than the regenerative steam-engine, and the original merit of it was due to Frederick Siemens, in whose name the patent was taken out on December 2, 1856. Instead of allowing the products of combustion to pass away directly into the air, they were led through chambers lined with fire-bricks, which absorbed a large percentage of the heat; and, when these chambers became quite hot, the atmospheric air to feed the furnace was passed through them, while the products of combustion were directed into another regenerative chamber, which, in its turn, served as the passage for the air, and so on alternately. The saving of fuel resulting from such an apparatus was enormous, but, in addition to this, vastly-increased temperatures were produced, so great, in fact, that in many cases the furnaces were entirely consumed. During their experiments with these furnaces the brothers Siemens hit upon a very important modification, viz., the conversion of ordinary solid fuel into gaseous fuel, which latter was alone used in the furnace itself. The impurities of the ordinary fuel were thus eliminated, and the results had a most important bearing upon all industrial processes where great heat is required, foremost among them being glass-making. The success of the new furnaces at Messrs. Chance's works near Birmingham attracted the notice of Professor Faraday, who described them at the last Friday evening lecture which he ever delivered at the Royal Institution, Albemarle-street, on June 20, 1862, and after this Mr. Siemens's high position in the scientific world was assured. One of the most successful adaptations of the Siemens regenerative principle was the Hoffman patent kiln, which is now extensively used for brickmaking, in which the heated gases produced by combustion are applied in drying the fresh bricks about to be burnt, and the heat of the bricks which are cooling after being burnt is used in warming the air which goes to feed the fires, thus producing a double economy. Some time before the regenerative furnace had been elaborated, Mr. Siemens had designed a water-meter, which at once became a success, and brought him in a considerable income from royalties, and from this time (1853) he was rid of the pecuniary troubles which had hampered him for the previous ten years. In 1859 Mr. Siemens became a naturalised Englishman, and in the summer of that year he married, his wife being the youngest daughter of Mr. Joseph Gordon, W.S., of Edinburgh.

It soon became apparent that the regenerative furnace was capable of quite unforeseen developments, and Mr. Siemens began experimenting upon the production of steel; and the account which Dr. Pole gives us of the difficulties which were encountered, and of the patient ingenuity with which these difficulties were met and conquered, forms one of the most interesting chapters in the book. The plan adopted by Mr. Siemens to bring his discoveries and processes into practical use was characteristic of the business qualities of the man. He appreciated the fact that the railways would be the great users of steel rails, if these could be produced at a moderate cost; and, as the essence of his invention was the production of steel by the mixture in a fused state of ordinary pig-iron and malleable or "scrap" iron, he conceived the idea of converting old worn-out iron rails into new steel ones, and he made a proposition to the North-Western Railway Company to do this. After some deliberation his proposals were accepted, the experiment was perfectly successful, and the conversion of old rails to new ones is still carried out in this way. As a result of the large orders for steel rails which now poured in upon him, Mr. Siemens determined to form a company for the establishment of steel-works. This resulted in the formation of the world-renowned Landore Siemens Steel Company, the produce of whose works could always be depended upon for the highest quality; but of late years, from various causes, heavy losses ensued, and the premature death of the founder, coming as it did in the midst of the serious depression in the iron trade, must have been a crushing blow to the company.

Twenty years after the invention of the regenerative furnace, Mr. Siemens, who, in 1870 had had the degree of LL.D. conferred upon him by the University of Oxford, was still hard at work on various applications of it; and now he endeavoured to revolutionise, not extensive industrial processes, but ordinary household appliances, more particularly with the view of obviating the terrible discomfort, disease, and death occasioned by the smoky atmosphere of large cities, by diminishing the amount of smoke given off by ordinary coal-fires. The introduction of the Siemens gas-stove—or, rather, its adaptation to ordinary fireplaces—is of so recent occurrence that it must be fresh in the mind of every one who takes an interest in these matters; but it may be remarked—as Dr. Pole very justly observes—that, simple as this stove is, it is based upon the strictest scientific principles. The gas and atmospheric air combined are brought into contact after ignition with ordinary coke, which is thus supplied with the elements abstracted from it during the manufacture of gas, but in a more economical form. We have often regretted that so little practical use has been made of this invention, and, although it has been on several occasions alluded to in this journal, it may not be out of place to recapitulate the advantages which Dr. Siemens claimed for his fire. These are:—"1. Absence of smoke. 2. Greater heating power at less cost. 3. Facility of lighting without the usual laying of paper or wood. 4. Keeping alight without attention or stirring. 5. Ease of regulation or adjustment, according to the heating effect required. 6. Capability of being lighted or allowed to go out at any moment, which is not only a great convenience, but means considerable economy." Since 1880 the smoke nuisance has not in the least diminished, and we can only hope that Dr. Pole's reference to the subject, and to the great interest which Sir W. Siemens took in it, may revive attention to an invention which, if more extensively used, would prove of inestimable benefit to all dwellers in cities. As an instance of Sir W. Siemens' intimate knowledge of the minute details of everything connected with his inventions, we may mention that not long before his death he took considerable personal interest in fitting-up several of his gas-fires in the house of a friend, and that one of them would not work satisfactorily. After many attempts to remedy the defect, Sir William suddenly said, "I am convinced there is some slight irregularity in the interior of one of the burners." The whole thing was taken to pieces, and it was found that a workman had by mistake just commenced drilling the inside of one of the burners, and, in consequence, the gas in passing through it was slightly diverted from its proper course. The delight with which Sir William exclaimed, "I told you so," will be long remembered by those who were with him. The regenerative principles involved in the Siemens furnace were afterwards successfully applied to gas-lighting in the Siemens regenerative gas-burner, which utilised the heat given off by the gas-flame to warm the incoming gas before it arrived at the point where it was ignited, and considerable increase of lighting-power and economy was the result.

We have devoted so much space to an account of Sir W. Siemens's work in relation to heat and its applications because we have always felt that herein the innate inventive genius of the man mainly asserted itself. A considerable portion of Dr. Pole's work is taken up with an account of the improvements and discoveries in the electrical world, in which the subject of the memoir had so large a share, but while fully admitting the immense amount of ingenuity and talent which William Siemens brought to bear upon this subject, one cannot help feeling that to the elder brother, Werner Siemens, was due the origination of many of the most successful applications of electricity. It was Werner who in 1844 foresaw the immense field which electrical science would open to industrial arts and manufactures; it was he who, in conjunction with Mr. Halske, in 1847 established the first factory for telegraphic construction, with reference to which he wrote thus:—"I am resolved to establish for myself a fixed career for telegraphy. This will become a special and important branch of scientific engineering, and I feel that I have a call to take up its organisation, as it is, I am convinced, yet in its infancy." It was Werner who, in 1848, proved the practicability of submerging, in Kiel harbour, copper wire coated with gutta-percha, without detrimentally affecting its conductivity, and this led to the firm carrying out the laying of several submarine cables during the years 1858 and 1859. Again, we find that in 1856 Werner Siemens, working on the lines suggested by Faraday's great discovery of the possibility of obtaining electric currents from ordinary magnetism, had constructed an armature of novel shape, and by winding insulated wires round it, and then causing it to revolve between the poles of permanent magnets, he obtained very powerful alternating currents, which, by means of a commutator, were easily rendered continuous. Ten years afterwards came the inestimably important discovery, that for producing electric currents, permanent magnets could be dispensed with, and that the residual magnetism always remaining in the iron coils of an electro-magnet was sufficient of itself to induce feeble currents in the coils of a revolving armature, which currents intensified the original magnetism of the inducing coil, and thus in a very short time, by mutual action and reaction, effects of great magnitude could be produced. This discovery was communicated to the Royal Society by William Siemens on February 14, 1867, a day ever-memorable in the annals of science, from the fact that Professor Wheatstone and Mr. Varley simultaneously announced that the same discovery had been made by themselves independently. Once more, we are told that in 1878 Werner Siemens worked out a design for an electric railway, and constructed one on a small scale, and thus initiated the electrical transmission of energy. There is not the slightest doubt that William Siemens was of the greatest possible assistance in improving, elaborating, and developing the ideas which his brother's active brain had first suggested, and the story of his share in carrying out the numerous undertakings which the firm had on hand forms one of the most interesting portions of the book. We find him negotiating with the various Governments interested in the construction of the Inter-European Telegraph, superintending the arrangements for the laying of the first Atlantic cable, devising improvements in the early dynamo machines, and arranging for their adaptation to purposes of lighthouse illumination, designing arc lamps, undertaking the lighting by electricity of the Royal Albert Hall, and displaying his versatile energy in a thousand different ways. The cable steamship *Faraday* was constructed from Dr. Siemens' own special designs, and Dr. Pole justly observes "that the design of such a vessel, capable of doing what no other vessel afloat could do, by a landsman born in the interior of Europe, whose education and pursuits had little or no connexion with

nautical affairs, was a striking example of practical genius of the highest character." Shortly before his death Siemens set himself to devise means of making practical use of the great heat of the voltaic arc, and took out a patent for an electric furnace, the heat of which would far transcend his own regenerative furnace. Since 1883 more powerful machines have been constructed than were known previously, and one of the most important developments of the electric furnace has been in the production of pure aluminium and its alloys. This metal exists in the state of ore of so stubborn and refractory a nature that no furnace was capable of reducing it, but Messrs. Cowles, of Stoke-on-Trent, are now able, by the aid of a Crompton dynamo of 500-h.p., giving a current of from 5,000 to 6,000 ampères, to obtain either the pure metal or its alloys after about one hour-and-a-half's firing, at a far less cost than was ever previously possible.

We have not space to allude to the many miscellaneous inventions of Sir W. Siemens, such as the electric pyrometer, the deep-sea photometer, the bathometer, an instrument for showing the depth of the sea without sounding—the description of which is almost startling in the boldness of its conception; the instruments for measuring electric currents, one of which is of such extreme delicacy that it can detect the infinitesimal currents passing in a telephone wire; nor can we do more than allude to his daring speculations upon the cause of the permanence of the sun's temperature. Sir William Siemens was in the highest sense a scientific man, but it was the practical side of science to which he attached most importance. He appreciated to the full the immense advantage it is to a nation to foster a scientific education for all classes of society, and in the latter years of his life he was always ready to give his aid towards improving technical education in his adopted country, while his generosity to poor and struggling inventors will never be fully known except to the recipients of it. His success in life was doubtless due in no small degree to his innate genius, but this would have been unavailing without the energy and determination which accompanied it. This record of his life and work should be read by every student, and should be in the library of every Mechanics' Institute in the country. Not only were all the distinctions showered upon him richly deserved, but every society and institution to which he belonged was honoured by enrolling him among its members. No more fitting epitaph for such a man could be found than the words uttered by his brother Werner after the funeral,—"Ein so volles Leben! ein so schöner Tod! und eine solche Anerkennung."

BATTERSEA FREE LIBRARY COMPETITION.

THE parish of Battersea is one of the largest of the metropolitan parishes, and extends, roughly speaking, from near Millbank to Tooting. It comprises about 2,200 acres, and has a population of some 170,000 souls, which is rapidly increasing. The present Free Library, which has only been a few weeks in existence, is accommodated temporarily in one extremity of the parish, and is quite out of the reach of a large proportion of the parishioners who help to support it by contributing to the rates. The Committee have, after the customary delays and difficulties, succeeded in acquiring an ample site in almost the centre of the district which the Library is to serve, and they have lost no time in setting about obtaining designs for the erection of a suitable building. Ten architects were invited to prepare designs, and all of them responded to the invitation, and, as the result shows, expended not only time and money upon the work, but an immense amount of thoughtful consideration. Their names are Mr. E. W. Mountford, Messrs. Chatfeild Clarke & Son, Mr. Rowland Plumbe, Mr. C. Jones, Mr. Francis Hooper, Mr. H. T. Bonner, Mr. Henry Branch, Mr. I. W. Hanson, Mr. Walter Lyon, and Mr. Sydney Smith.

Premiums of 30*l.*, 25*l.*, 15*l.*, and 10*l.* were offered for the best designs in the order of merit, and they have been awarded to Mr. Mountford, Messrs. Chatfeild Clarke & Sons, Mr. Rowland Plumbe, and (the late) Mr. C. Jones, respectively.

The Committee wisely availed themselves of a clause in the "Instructions," and called in the assistance of Messrs. Hunt & Steward to assist them in making the awards. The recommendations of that firm have, we understand, been followed, and we are of opinion that the result is satisfactory.

The instructions to the competing architects were unusually full and minute, prescribing not only the required rooms, but—within a margin of ten per cent.—their areas, capacity, &c.

The sum to be expended was limited to £6,000, and herein, as usual, lay the real difficulty. We are given to understand that Messrs. Hunt & Steward's report pointed to only one design as fulfilling this condition. It is fortunate that it is one of the three designs almost identical in plan which give, on the whole, the best disposition of the several portions of the building. It is a well arranged and good working plan—the news-room on the right of the entrance, the magazine-room on the left, the lending library extending almost across the rear frontage, the librarian's office being placed between it and the news-room. The one doubtful point in the arrangement is, perhaps, the lighting of the latter room, which has an end light only; and, of course, the same remark applies to the ladies' reading-room over it. But with certain borrowed lights this may prove sufficient.

The elevations are broadly treated but dignified, and quite void of useless detail. What there is is well-designed and well-proportioned, and the general effect is pleasing.

This design has been put to the test of open tenders, and one has been received from a substantial firm for a sum within the prescribed limit.

The design placed second has an admirable plan, the lighting throughout being very good. It is sent in, curiously enough, under the same motto as the successful one, but proved, we imagine, upon analysis, too expensive for the funds at disposal.

The design placed third in order of merit is very similar to the chosen design in plan, but the lighting is inferior, the reference library suffering severely in this respect. It is treated in the prevailing Queen Anne manner, and has many good points.

The remaining premiated plan has a general similarity to the foregoing, but the elevations have less architectural merit.

The other designs do not call for detailed remarks. The plan submitted by Mr. Bonner is by no means equal to the selected plans, but the grouping of his buildings is effective, though obviously too elaborate and expensive for the object in view. They are shown in a boldly drawn and nicely tinted perspective.

Mr. Branch has devised what is in some respects an excellent plan, but the lighting of the lending library went far, we fear, to condemn it.

The most original plan is that by Mr. Hanson. The distinguishing feature is the large oval top-lighted reference library on the first floor, with book-stores ranged in the spandril spaces outside. If a reference library were the central requirement, which is not the case, this plan should have commended itself strongly to the assessors. It fills the whole area available, and is marked by great ingenuity of treatment, and is well arranged and lighted throughout.

The most artistic elevations we take to be those of Mr. Walter Lyon. They are in a refined variety of Renaissance, treated with much grace, freedom, and power; but they are handicapped by a plan which gives a library of 80 ft. in length lighted only at the ends.

Mr. Sydney Smith has removed his drawings.

We think the Committee are to be congratulated on the success of their enterprise so far; their invitation has been cordially responded to by the selected architects, who have submitted thoughtful designs unusually well represented. The chosen design will provide the required accommodation in a building of quiet and appropriate exterior, and in adopting it substantial justice to all has, we think, been done by those entrusted with the delicate and difficult task of making a selection from so many excellent plans.

NOTES.

WE are very glad to observe from last Tuesday's *Times* that the leading journal has at length come to the perception that the opening meeting of the professional representative body of architects, and an address on architecture from a leading member of the profession occupying the presidential chair, are matters worth some better kind of notice than a condensed paragraph in an out-of-the-way corner of the paper. The discovery has come rather late in the day; but it is never too late to mend, and we hope this is a sign that the *Times* is about to show a somewhat more intelligent interest in the subject of architecture for the future. It must be admitted that Mr. Waterhouse's presidential address furnished every excuse for special attention on the part of outsiders as well as the profession. There can have been few better addresses of the kind delivered from the chair in the Conduit-street rooms; an address remarkable for its common sense and practical character, as well for its enthusiasm, and for the broad view of the subject of architecture in regard to past and future which it included. We are glad to see that the President took the opportunity of dwelling on the importance and value of the compulsory examination for Associateship of the Institute, and pointed out to the profession and the public the practical guarantee of proficiency which in future the fact of membership of the Institute of Architects would give to those who had attained it through the examination test to be now made the condition of membership. We were very much in want of a clear and decisive declaration of policy on this head from the President of the Institute, and nothing certainly could be more clear or precise than Mr. Waterhouse's opinion on the subject. This kind of examination, of course, is quite a different thing in principle from that kind of competitive examination, against which, or against the abuse of which, there is a strong reaction in public opinion setting in. What is proposed is not examination as a test of relative ability as between one person and another—a test so often illusory, and bringing in its train all the evils of the "cram" system: it is an examination to test proficiency in professional knowledge up to a certain standard. Genius, of course, cannot be tested by examination; what can be secured by this means is that genius should have a solid platform of knowledge to start from. Nor can moral character be tested by examination; but the Institute has shown its determination to deal strictly with lapses from professional *morale* by striking off from its list of members one of the architect Members of the Board of Works whose method of feathering his own nest was among the exposures of the recent Royal Commission.

THE current number of the *Nineteenth Century* contains a characteristic exposition by Mr. Shaw-Lefevre of the entire excellence and success of all the schemes of architectural improvement in London of which he claims to be the official author and origin. The way in which he has ordered things, in moving the Constitution-Hill arch, building sham antiques at the Tower, and tacking a so-called restoration on to Westminster Hall, is the one possible and excellent way, and there is no other. We have had all this over before, in nearly the same words, in the same magazine, so that there is nothing to be surprised at in Mr. Shaw-Lefevre's admiration of him-

self as a public ædile. What one is inclined to wonder at is why Mr. Shaw-Lefevre's advertisement of himself should be considered a matter of so great public interest that he should be allowed twice to repeat it in the same magazine; and how it comes to pass that the Editor of the *Nineteenth Century*, who is himself an architect, should allow a self-complacent *dilettante*, whose knowledge of the subject is obviously of the most superficial kind, to act the part of architectural lecturer, and to pose as his own critic. In the face of such an ignorant architectural public as ours, this kind of thing does a great deal of mischief. That wise print, the *Pall Mall Gazette*, has already suggested that Mr. Shaw-Lefevre should be appointed "permanent ædile" for London, apparently taking Mr. Shaw-Lefevre's architectural perceptions at his own valuation.

WE gave a long quotation last week from an article in the *Quarterly Review* on the subject of Technical Education, advocating the view that the workshop was the real School of Technical Education. The current number of the *Nineteenth Century* contains an article by Lord Armstrong, "The Cry for Useless Knowledge," on just the same line of argument. Lord Armstrong has, at all events, had experience enough of what workmen can and cannot do. At the Elswick works, he says, schools and a mechanics' institute have been built, and evening science and art classes established, which have been largely attended. But he distinctly denies that the way of turning out work in his foundries by the average hands has been in any way affected by these advantages afforded for education out of the workshop. Where he thinks the effect is to be found is that the class of men who, from their superior ability and thoughtfulness, would naturally rise to the position of foremen and directors of labour, are assisted in acquiring a fitness for such positions by knowledge which they acquire in the Elswick Schools; but he entirely denies that it has affected the quality of the workmanship generally as turned out in the foundries. Lord Armstrong puts the question, where the line is to be drawn in giving scientific education at the national expense. He says there are in London about 4,000 different industries, which all might claim to have a scientific basis. If all these are to have the foundation of special technical education, the task is impossible; if there is to be a selection, it is unfair. Lord Armstrong here, however, seems to do an injustice to the advocates of technical education, or to most of them. They are not proposing to teach trades, but to give the education in technical matters which would be supposed to better fit the man to learn his trade. Even on this view, however, there can be no doubt that a technical education intended to have a bearing on all trades would have to be on a very extensive scale indeed. The increase and improvement of technical schools, of course, would be of great value to a number of persons. The question is, would it materially affect the average workman, or would it not even throw him backward in learning his trade, by keeping him longer away from the practical training in the workshop, the only school in which he can really acquire dexterity and familiarity with his tasks? And there is the further question, would it really give us any assistance as against foreign competition? These are questions deserving serious consideration on the part of those who are, it is to be feared, too sanguine in their expectations as to the practical influence of technical schools.

THE last volume of the "Transactions" of the Institute of Architects, which is just out, derives a special interest from its including Mr. Penrose's exceptionally-valuable paper on his investigations on the site of the temple of Jupiter Olympius at Athens, and his plans of the ascertained position of the walls and colonnades. The paper by Mr. Gerald Horsley (Owen Jones Student), on "Notes of a Tour in North Italy," is also of special interest, as illustrating, both with pen and pencil, some things that are more or less out of the beaten track of architectural sketching in Italy. A sketch of a palace on the Corso Garibaldi at Cremona shows a treatment exceedingly unusual in Renaissance architecture, an elevation with two orders of pilasters, and crowned, not by a Classic cornice of the ordinary type, but by a large cove with a tenia below and a comparatively small crown moulding above, the cove decorated in colour. Such a cornice would form a good position for the introduction of external mosaic decoration, supported and led up to by coloured marbles or terra-cotta below. A charming sketch is also given of a marble wall-tomb in San Fermo Maggiore, Verona: a highly-enriched coffer, or sarcophagus, carried on large cantilever brackets, projecting from the wall-face.

THE Railway Commissioners delivered judgment last week in a case brought against the Rhymney Railway Company,—the snug little Welsh line of fifty miles, which always pays 10 per cent. dividend. It appears that a large quantity of coal is sent into Cardiff by this line from Dowlais and from Rhymney, and that there is a difference in the respective rates in favour of the former colliery of about 2d. per ton, which, the Commissioners were asked to say, constituted an undue preference. Of course, the preference was not denied, but some ingenious arguments were put forward to show that it was not *undue*. It was urged that Dowlais undertook to send a larger amount of traffic,—their total for six months being 177,000 tons, against 56,000 tons from Rhymney; that the company were willing to give the same terms to every one who gave the same large amount of traffic, and were therefore entitled to give the reduced rate complained of without being laid under the charge of undue preference. Another point was that the proportion of working expenses of the Rhymney Railway Company to the receipts had decreased to a marked extent since they had the carriage of the traffic on the Dowlais line (to which the Dowlais collieries had been very large and useful contributors), and that the company were therefore entitled to give some preference to those collieries. The Chief Commissioner (Sir Fredk. Peel) decided that a reduction in working expenses over a railway system consequent upon an enlargement of the operations of the company did not entitle them to single out a particular customer for benefit. It would certainly have appeared more reasonable had they taken the opportunity of reducing rates all round, than to have practically given a new customer a bounty, to the prejudice of old ones in the same line of business. The fact appears to be that the railway company entered into an agreement with the Dowlais Company to grant them this lower rate conditionally upon their sending a certain proportion of their traffic upon this line, relying upon the arguments alluded to, and other points, to protect them from a charge of undue preference. Possibly, if it could have been shown that in the larger business a smaller profit per ton was as valuable to the company as a larger profit per ton in a less business, the Commissioners might have looked upon the difference in treatment as being reasonable; and it must be remembered that the new Act, setting forth various considerations which may be had regard to in deciding cases of this nature, does not come into operation until next year, and does not affect cases now before the Commission. Under the existing law, and upon the evidence given, the Commissioners decided that the difference in treatment was not justified and could not be sanctioned.

HOW hard it is for public bodies to overcome difficulties in regard to sanitary matters in many places is well exemplified by the recent decision of the Queen's Bench Division, in the case of Regina *v.* The Staines Local Board. It appears that the owners of certain houses at or near Staines have a prescriptive right to drain them into a sewer which runs into the Thames. The consequence, of course, is that the river is thus polluted to a larger or smaller extent. The Conservators, under their statutory powers, as was their duty, tried to prevent this nuisance by a long course of proceedings against the Staines Local Board. This Board, however, pleaded that they could not prevent this state of things, in consequence of the before-mentioned rights, as no sewage from any drains under their control passed into this particular sewer. There is no reason to suppose that the Local Board would not, if they had had the legal power to do so (which it was clear they had not), have prevented this sewage from running into the Thames. The case, therefore, clearly shows,—as, indeed, previous ones have already done,—how necessary it is, in the interests of the community, that these prescriptive rights should not be allowed to obstruct the course of sanitary reform. There are plenty of places on the Thames and other rivers where similar prescriptive rights exist. It is obvious that the right of draining into a river or water-course is not in itself a valuable privilege, so long as the house in question can be otherwise efficiently drained. It is clear, therefore, that Urban Sanitary Authorities should have the legal power to take away prescriptive rights, provided that in place of them they give efficient drainage accommodation to the houses to which the right is attached. The matter is not very difficult, and it should be possible to reconcile public and private interests, which ought not really to be in conflict.

FROM the Registrar-General's "Quarterly Return" No. 159, just issued, we learn that during the three months ending September 30 last 270,720 births, and 139,821 deaths were registered in the United Kingdom. The natural increase of population during the quarter was therefore 130,899. Taking the population of the United Kingdom in the middle of 1888 at its *estimated* number of 37,440,505 persons,* the birth-rate for the quarter was 28·7, and the death-rate 14·8 per thousand. For England and Wales, during the same period, the death-rate was equivalent to an annual death-rate of 15 per thousand of the estimated population. This death-rate, the Registrar-General informs us, was 3 per thousand below the mean rate in the corresponding periods of the ten years 1878-87, "and was considerably lower than that recorded in the third quarter of any year since the commencement of civil registration in 1837." This is the more noteworthy when taken in conjunction with the statement that "the mean temperature of the air during the quarter was 57·6 deg., and was 2·1 deg. below the average for the corresponding quarters of 117 years. The mean was below the average in each month of the quarter, the largest deficiency occurring in July." These figures are given by the Registrar-General on the authority of Mr. James Glaisher, F.R.S. "The weather in July," it is pointed out "was remarkably cold and wet, and the deficiency of sunshine was also remarkable; the rain-fall of the month was, with one exception (1828), higher than in any corresponding month so far back as 1815." In the twenty-eight great towns of England and Wales (including London) the death-rate was 16·9 per thousand, which exceeded the urban rate by 1·2, but was 3·6 below the mean rate in these towns in the corresponding quarters of the six years 1882-87. The death-rate was only 16·2 in London, while it averaged 17·5 in the twenty-seven other great towns. The lowest rates in the provincial towns were 12·7 in Bristol, 13·7 in Nottingham, 13·9 in Brighton, and 14·3 in Hull; while the highest were 20·2 in Bolton, 20·3 in Leeds, 22·4 in Preston, and 23·5 in Manchester. A summary of the weekly returns with which the Registrar-General is favoured by various local authorities abroad shows that the annual death-rate during the quarter ending with September last in thirty colonial and foreign

* This total being made up thus:—England and Wales, 28,628,804; Scotland, 4,034,156; and Ireland, 4,777,545.

cities, having an aggregate population exceeding sixteen millions of persons, was 25·3 per thousand. In the twenty-one European cities included in the above, the mean rate was 22·7, against 16·9 in the twenty-eight large English towns. The death-rate of Paris during the period covered by the report was 19·7, that of Berlin 22·3, that of Vienna 22·1, that of New York 28·9, and that of St. Petersburg, 30·4, so that London, with its exceptionally low rate of 16·2, more than maintains its distinction of being the healthiest capital in the world.

WE have received Dr. Airy's Report to the Local Government Board on an epidemic of diphtheria at Walthamstow. In this case, though some parts of the district appear to be inefficiently drained, the report leads to the conclusion that there was some special cause of the introduction of the disease from outside, and that personal communication was the chief means of spreading it within the district. Dr. Airy refers to the existence of bell-trapped yard gullies in connexion with one set of houses, all built by the same builder, but it was not found that disease had specially attacked these houses. Dr. Airy recommends, however, that the Sanitary Authority should examine and repair or relay any portions of the sewerage of the district which they have reason to suspect to be unsound, and provide for the more efficient flushing of the sewers; but more especially that they should make suitable provision, either by erecting a hospital of their own or by combination with some neighbouring Sanitary Authority, for the isolation of persons suffering under infectious disease.

A CASE of considerable interest to German architects has just been decided at Berlin, after a delay of more than a year. A large hospital, consisting of six separate and distinct blocks, is being erected in this city, Mr. Hiller being the architect, and a Mr. Siber the contractor. One of these blocks had been built up to the cornice, which was to be in terra-cotta, when, on August 22 of last year, some 60 ft. of this cornice suddenly gave way, bringing nine workmen to the ground, of whom eight were killed. The cornice had a backing of 14 in., and the two upper courses of mouldings, projecting 15 in. beyond the face of the wall, rested on a continuous iron plate, which was tailed down into the backing by means of iron rods 3 ft. long at intervals of 6 ft. This construction seems to have been approved by experts at the trial, but it was contended that, when the terra-cotta was not being delivered as fast as wanted, the works should have been stopped. Instead of this, the fixing of such blocks as had been delivered was proceeded with, the result being improper work and the collapse of the cornice. After their fate had been hanging over them for more than a year, both architect and builder were condemned to six months' imprisonment. Apart from any question of the immediate cause of failure, the method of construction described appears to us open to the strongest objection, being rather to be called bandaging than building.

ATTENTION has been called recently to the at present vacant site of Poplar-place, north-westwards of the Foundling Hospital. The condemned houses here were recently pulled down, and the hospital governors have let the land, being about 67 ft. square, for the building of a block of artisans' dwellings. Inasmuch as the site is already surrounded by a double row of houses standing *dos-à-dos*, and can be approached by only two wide, but covered passages, (through those houses) that lead out of Compton and Judd streets, Mrs. Holmes justly represents that "if the space is allowed to be covered with a high block of artisans' dwellings it cannot but become a breeding-place for all that is unwholesome, unsavoury, and pestilential, devoid of sufficient light or air." She urges that the area should rather be converted into a free playground for the many poor children of that already overcrowded locality, whose liberty in sport is somewhat, albeit necessarily, curtailed in the new St. George's-garden, as lately opened to the public. It appears that the St. Pancras Vestry acquired, and for about 1,000*l*.,—in terms of the Artisans' and Labourers' Dwellings Acts, 1868 and 1879,—the residue, being twenty years of the term for which Poplar-place was held from the Hospital. In 1886, they surrendered the lease to the governors in exchange for relief from the covenants and rent thereunder. In the *Times* of the 1st inst., Dr. Sykes, Medical Officer of Health for St. Pancras, writes a letter to show that this entire site of just under two acres, the vacant area within being included, has a population of 430 persons per acre, as compared with the ratio of 54 per acre for the metropolis by the census taken in 1881. He argues that sanitary considerations quite forbid any more building over an area where the death-rate is double that of the rest of the parish.

WRITING in the *Times* of Monday, October 29 last, the Rev. C. E. T. Roberts, Vicar of St. Clement's, Potteries, Notting-hill, appeals for further subscriptions,—600*l*. being already promised,—towards the purchase of a recreation-ground. The field, of 4½ acres, lies in that poor and thickly-populated district where Pottery-lane still commemorates a past industry for which it was once known. Notting-hill "Potteries" lay between Notting Barn Farm and the district (southwards) where are now Norland and St. James's squares. Norland-square owes its name to Norlands, or Norland House, a former home of the Vulliamys, the famous clockmakers in Pall-mall. We spoke of that house, and its artesian well sunk in 1794, in our obituary notice (Nov. 20, 1886) of the late Mr. George John Vulliamy, architect. The well, as we were subsequently informed (see our "Note" of April 16, 1887), was sunk by George Vulliamy's grandfather. His father, Benjamin Louis Vulliamy, died on January 8, 1854, aged 74 years.

MR. ALBERT HARTSHORNE (Bradbourne Hall, Wirksworth) has in hand a work on seventeenth and eighteenth century wine-glasses and goblets. He will be glad of any notes of dated examples, with descriptions, and heights of such glasses, their shapes, and the fashion of their stems, and references to collections of such objects.

THE annual exhibition of old embroideries, brocades, and laces, at Messrs. Howell & James's, in Regent-street, is as interesting this year as ever. It must be difficult by this time to find anything of the kind that seems very fresh. We have seen so many embroidered Persian and Turkish table-covers and prayer carpets, and so many heavily embroidered Italian altar-frontals, vestments, and banners, of late years, and they are mostly so much alike, that, however beautiful a piece of such work may be, one too often has a feeling, when looking at it, that one has seen it over and over again previously. This is, however, not the case with the principal exhibits in the present collection, and the specimens of Spanish embroidery made in the convents of Manila, which are among them, have an especial air of freshness. The old Italian and Spanish ecclesiastical embroideries nevertheless hold their own, as probably they always will do, for richness of effect, harmonious colouring, and excellence of decorative design. Some of the old vestments in Messrs. Howell & James's galleries are in a wonderfully perfect state of preservation, but in others it has been necessary to work over the old silk ground—a proceeding which seems to produce a less satisfactory result than that obtained in other cases by transferring the embroidery to a new ground of similar material. A very fine piece of work is No. 73, a white satin coverlet embroidered with flowers in soft colours, with a centre composed of two hearts transfixed, across which is an undecipherable inscription. Another fine piece is No. 52—a part of a vestment richly worked in silk and gold threads in Spanish basket stitch. Nos. 99 and 100 are beautiful specimens of Italian brocades, and we remarked also a piece of French work embroidered with chenilles, which has a very soft and pleasant effect. Among the laces, the finest specimen is No. 15, a piece of so-called "drawn work" worked over in point-lace stitches. The antique Cretan borders, in green, red, and terra-cotta, are also most interesting. The exhibition is to remain open for a month, and designers and makers of lace and embroidery might get many useful hints from an examination of such fine specimens of harmonious colouring and skilful and conscientious workmanship.

MR. WILLIAM MORRIS'S lecture on Tapestry at the Arts and Crafts Exhibition last week was an excellent lesson as to the value and meaning of decorative treatment in work of this class, as opposed to the pictorial treatment of the French Renaissance designers. This has been already urged, as we observed, in his essay prefixed to the catalogue of the Exhibition. The lesson will bear repetition, no doubt, though it is fortunately by no means as necessary now as it would have been twenty years ago. Few persons in England, with any pretence to culture, would now desire or admire tapestry designs of the Boucher school.

WE have received from Messrs. Longmans, Green, & Co. some specimen-copies of progressive drawing-books, price 2d. and 3d. a number, prepared "in accordance with the illustrated syllabus of the Science and Art Department." We presume, however, that they are not prepared under the authority of the Department, because we some time ago took notice of a somewhat similar series issued with the authority of the Department, and under the direction of Mr. Poynter. Those were, if we remember right, published at 6d. a number, so that these of Messrs. Longman's issue have an advantage in cheapness. The first two or three numbers are evidently intended to afford the first elementary lessons in making lines or using the pencil at all, in the case of very young children. The majority of the lessons of this kind consist of geometrical figures in straight lines, or of single curves of various character, which are first to be copied on a dotted line which the pen or pencil is to follow, and then to be reproduced in freehand on the remaining space of the page, with or without some few dots to guide the eye to the leading proportions. The idea of making the pupil first follow out the lines on a dotted guide-line is a good one in the case of very young beginners, as it would accustom their fingers first to the mechanical effort of holding and guiding the pencil, leaving the effort of the eye to be made afterwards, when the hand has first had a little initiation into its work. The more advanced freehand copies of scrolls, artificial foliage, &c., are for the most part not nearly as good as those in the South Kensington books before referred to. The design and colouring of the wrapper of this set of instruction-books in drawing is one of the most unfortunate instances that could be shown of the national artistic deficiences in taste which we still labour under. It might have been thought that a first-class publishing firm like Messrs. Longmans, if they wanted to print an ornamental cover on a cheap book of this kind, would have thought it worth while to get an artist to make them a sketch for it; but the English publisher is still far from understanding that. The design on the cover is one of the worst and most commonplace, in details and lettering and its detestable colour, that could well be seen; it is enough to frighten away any purchaser with the least eye for colour or design. A plain brown-paper wrapper would have been far preferable.

THE following letter, which will interest some of our readers, appeared in the *Times* of Monday last:—

"SOUTH LONDON ART GALLERY.

Sir,—Will you allow us, a few working men of South London, to ask for further help in our attempt

to keep before ourselves and our fellow-workmen and their families an ideal of a higher life than even technical education? Many generous friends have lent us several pictures and helped towards our expenses, and within the last twelvemonth more than 100,000 people, nearly all genuine artisans, have visited our art galleries. We spend less than 300*l.* yearly for every expense, including heavy rent, and towards this we have this year but 200*l.* We ask for donations towards our expenses, and for the loan of pictures for such times as their owners can spare them, however short. All letters should be sent to our secretary, Miss Olver, and cheques should be crossed 'Robarts, Lubbock, & Co., account of South London Free Art Gallery.'

J. BISS, cigarmaker.
M. BOUNDS, mason.
W. BRAGG, carpenter.
R. BROOKS, carpenter.
R. BUTCHART, polisher.
W. CLARK, shunter.

Free Art Gallery, 207, Camberwell-road,
Nov. 2."

What particularly interested us in this appeal was to see this decided recognition, on the part of a group of artisans, of an ideal "higher even than technical education,"—in other words, the perception that there are other and higher intellectual interests than that of the scientific and economic treatment of material in manufacture, which practically, important though it be, is not quite "the be-all and the end-all here." We have taken an opportunity of visiting the exhibition for which this appeal is made. What we saw was a by no means despicable collection of works of art, exhibited in a good-sized shop and house in the Camberwell-road, in which the Free Library is also located. The collection includes a portrait by Vandyck, and some other first-rate works, lent by Lady Burdett-Coutts; a small picture and a series of oil-sketches of landscape by Sir F. Leighton; an original portrait and several copies of pictures by Mr. Watts; a cartoon, "Ministering Angels," by Mr. E. Burne-Jones; landscapes by Mr. John Collier; and many other good oil-paintings. In the shop, with their backs to the light, are the original drawings for Mr. Walter Crane's "Book of Old Songs," and scattered about are a number of the original drawings for the *Graphic* and for Messrs. Cassell's publications, to say nothing of several of Mr. Haig's etchings, and of engravings of Sir F. Leighton's and other works, and some first-rate photographs of landscape and architecture. The collection seems terribly cramped for room, and to be constantly changing, many of the loans being, we were informed, liable to be reclaimed at an hour's notice. It is, therefore, hardly to be wondered at that the arrangement is entirely without system. One thing we would suggest, and that is that the custodian, who evidently knows good from bad, would do well to get rid of a good many worthless prints and amateur sketches which are scattered about among the works of art in a very uncomplimentary way, which help to fill up valuable wall-space, and too often attract the attention of ignorant visitors more than the good pictures.

WE are glad to see that the rector and churchwardens of St. Mary-le-Strand are appealing to the public for funds to put the church in thorough repair. They say, in a letter to the *Times* of the 6th:—

"We are anxious to restore it to its original state. To effect this it will be absolutely necessary to remove all the fractured stones and to cut out from the wall the iron chain bonds and cramps which have oxidised and split the stones, and which, unless removed, will continue to injure the building. The cost of thoroughly restoring the church and making it safe for public worship has been estimated by an architect of experience at about 3,000*l.* The parishioners are quite unable to defray the cost. The population of the parish is nearly 2,000, and those living behind the Strand are for the most part very poor people. The church in the Strand is the only place of worship which they can attend. It is, therefore, urgently necessary to solicit those who have the means to come forward as speedily as possible to save this beautiful building."

The writers quote the opinion of the Bishop of London (in which we quite concur) that "it would be a discredit to us in the eyes of all Europe if we show ourselves careless of such a work of art." The church is, in fact, the great architectural ornament of the Strand, and is an object of admiration to visitors from other parts of the world. We hope the rector will get the money he wants; and, in the meantime, that he and the churchwardens will take care of the decorative vases which are now, or were recently, lying on the ground in a row just inside the church railing, and looking as if they were likely to share the fate of the Burlington House Colonnade. The first result of the appeal, however, has been to elicit an article in that cultured journal, the *Daily Telegraph*, urging the immediate pulling down of the church, to remove an obstruction from the Strand. The dogged Philistinism of the English daily press in regard to architecture is certainly a curious phenomenon. It has been several times pointed out, in our own columns, and we believe elsewhere, that the ultimate treatment for this part of the Strand will be to open up Holywell-street, and carry the Strand roadway on each side of the two churches. The property to the north of them is bound to be removed and built up in time, and a noble effect will then be combined with public convenience for traffic,—if the prophets of the *Daily Telegraph* will only spare us the churches till then!

THE PRESIDENT'S ADDRESS, ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT the opening meeting for Session 1888-89 of the Royal Institute of British Architects, held on Monday evening last, at No. 9, Conduit-street, there was a crowded attendance. After some preliminary business, which will be found reported on p. 341.

The President, Mr. Alfred Waterhouse, R.A., rose amidst considerable applause to deliver his inaugural address. He said:—

Gentlemen and Colleagues,—The task of addressing you, on the opening meeting of a new session, is one which becomes to him, whoever he may be, who occupies this Chair more and more difficult. The interesting "Journal of Proceedings" published by the Institute, and our many professional journals, record everything that has happened of architectural interest and moment during the year: successes achieved, new inventions likely to be of service to us, important publications, architectural meetings, and notices of members whose deaths we have to deplore.

When I look at the addresses given by former presidents on occasions similar to the present, I feel that I cannot hope to say much that is new on the topics which of late years have so much interested you, and which have formed the staple of such addresses, nor approach the ability with which my predecessors have handled these themes. I must ask your indulgence, therefore, if I pass with slight reference many of the questions so ably treated by them, and refer to others, which, if not equally important, have at least been to me the object of some thought.

The most important event of our last session is undoubtedly the passing of the new By-laws under the provisions of the supplemental Charter granted last year, though they have not even yet received the approval of the Privy Council (applause). The chief feature of this new instrument is the Examination (no longer voluntary, but obligatory) through which for the future the ranks of our Association will have to be recruited. I look upon this as an immense stride in the right direction, first as an incentive to the student to study, and secondly as showing him the direction in which he ought to study; pointing out to him the sources from which he can acquire the knowledge necessary to pass the Examination with credit to himself. There has hitherto been, from what I have seen of architectural pupils, not so much a want of will to study diligently as an uncertainty as to the way. The way is now made clear, and from the commencement of his articles the student of the future will know, if he cares to know, what he has to make for, and accomplish, before he can be recognised either by himself or others as one fit to practise as an architect (hear, hear). This is likely to be of incalculable advantage to our profession, and we owe a debt of gratitude to those who have so long and so earnestly laboured to establish these examinations, and to perfect the machinery by which they are conducted. May they go on in this good work, gradually raising the standard of requirements, so that in time the Examination for admission may completely satisfy the public that those who have passed it are men armed at all points, and ready, so far as their intellectual acquirements are concerned, to do credit to their position as Associates and future Fellows of the Royal Institute of British Architects (applause).

A President of the Architectural Association said, in a recent address, that "the recognition of our profession depends upon each individual one of us." This is most true, and if lived up to would incline us, perhaps, to think less of "Registration," the advantages of which have been much debated during the past year, some architects thinking it of great importance, and others being strongly of a different opinion (hear, hear). As is well known to you, an ill-timed, and to my mind most uncalled-for, Bill was introduced into Parliament last session, by means of which architects, engineers, and surveyors were all unceremoniously to be huddled together in one act of registration. The Bill would, if carried, instead of narrowing the several professions interested to their most competent members only, have tended, for a generation at any rate, to injuriously widen them by giving a certain legal status to those who otherwise could have no claim as fit to practise in any of them, and in this way would have done incalculable mischief (applause). The Bill was vigorously opposed by the recognised representative bodies of all three professions, and, after a brief but satisfactory debate on the second reading in the House of Commons, was withdrawn; not, however, so far as we were concerned, before considerable trouble and expense had been incurred. The whole scheme was, in my humble opinion, a beginning at the wrong end (hear, hear). Education is what we want—not registration (hear, hear). To the student I would say, "Prepare for the Institute Examination so as to pass it creditably without resort to cram, and so become Associates and Fellows of this body. You will then be registered architects in an effective use of the term" (hear, hear). In my opinion we want no other registration, and ought to be content with nothing short of this (applause). We older men, who had none of these advantages, and find ourselves, perhaps, too rusty to pass the ordeal, must be content to offer our experience in lieu of it, and get on as best we may. Our younger brethren have a brighter future before them. The number of students passing last session (68) encourages me to believe that they are beginning to appreciate their opportunities.

The article by Mr. Connon, published in our "Journal of Proceedings" in November of last year, is a most valuable contribution to this subject, though, for my part, I should be inclined to try the result of the present examinations for entrance into this body before calling for the compulsory education of all architects. It may at last have to come to that, and then, of course, registration will follow. Let us, in the meanwhile, have as large a body of competent architects to register as possible. The more we have, the more we are likely to have; for, if apathy is contagious at present, the example of successful application towards the attainment of a definite aim will be contagious also. The entreaties of the master have often less effect upon a naturally indifferent pupil than the example of his fellows.

The other subject, somewhat allied to these questions, which was confided to the care of the Institute by the General Conference of last year,—that of Federation,—was most thoroughly considered by the Committee appointed for the purpose. Their recommendations were adopted by the Council, and a series of By-laws authorising the alliance of any non-metropolitan architectural society in the United Kingdom, India, and the Colonies with the Institute, under certain regulations, is the result (applause).

The new Local Government Act has not made any provision for the proper examination of technical officers employed by the Urban and Rural Authorities. Surveyors have hitherto qualified for certain appointments by examinations held under the direction of a Board of Examiners of this Institute—a proceeding which has worked well, and been of great public service. Your Council have done their utmost, both while the Bill was under consideration in the Commons, and also in the Lords, to call the attention of those responsible for it to this defect, but without success, probably owing to the haste with which it was hurried through its later stages. It is to be hoped that if in the future the Act comes to be

further amended and enlarged, as we are promised that it shall be, our recommendations will be listened to. Such a provision has been made to secure the proper qualification of Medical Officers to be employed by the County Councils, and it is obvious that the Surveyors, Urban and Rural, so employed should also be persons whose fitness for the very important duties they are called upon to perform has been in every case properly attested (hear, hear).

The Imperial Institute building is making progress, under the skilful superintendence of Mr. Collcutt, and promises, when complete, to be a very imposing structure. Our late lamented President implied in his last address that, except it were considered that the President of the Royal Academy (our Honorary Associate), represented Architecture as well as Painting and Sculpture (and so he does, and most ably), the representation of Architecture was conspicuously absent on the Executive Council of the Imperial Institute; but I have now good hope that Architecture will be represented on it, for such a representation is likely to be of much service both to our colonies and to the profession at home and abroad (applause). Mr. I'Anson's suggestion that the Imperial Institute might fitly collect a complete record of the architectural wonders of our Indian Empire appeared to me most valuable, and I trust it will be at the right time brought before the notice of its Executive.

In this case we may congratulate ourselves on being likely to have a public building which will be fairly seen at any rate on two sides, though, had it been placed on the north side of a square instead of being set back from a road 90 ft. wide, its effect would have been enormously enhanced (hear, hear). The idea of sacrificing anything in the way of space for the sake of architectural splendour and effect seems foreign to the English nature,—at any rate, our best sites are rarely, if ever, preserved for our most elaborate efforts, owing, I suppose, to there being no supreme special authority to decide such questions. It does not appear to be generally appreciated that an elaborate design ought to have a southern aspect if its beauties are to be fully enjoyed, and as a building's site is almost invariably determined upon before its architect is chosen (except in the case of private dwellings), there is at present nothing for us but making the best of what are often unworthy positions. If we go abroad we at once see that things are better ordered in this respect. Look at the Palais de Justice of Brussels. Its commanding position on the crest of a hill overhanging the old town, the open spaces which surround it, its magnificent Salle des Pas-Perdus, its stately staircases in the Salle itself, and that leading up to it from the lower town, whatever may be thought of the design of the building itself, show the advantages which have been secured by allowing ample space, both within and without, for architectural display; and to what good purpose the skilful architect has turned them, internally at any rate, in securing artistic effect. It is instructive also to note that the cost of so noble a work should be defrayed by so small a country as Belgium, —a cost equal, if I remember rightly, to about 1*l.* per head of the entire population.

Vienna also sets an example for imitation in this respect. The demolition of her ancient fortifications has given her a splendid opportunity for the erection of magnificent buildings on worthy sites (as we had on our Embankment), and to good purpose she appears to be putting those sites. If we examine the plan of the Parliament Houses, designed by our Royal Gold Medallist for this year, Baron von Hansen, we shall have an instance of this. There is a generous stateliness about the building which it does not often fall to the lot of an English architect to be able to achieve. Contrast this with our own Palace of Justice, jammed in on every side (for the present unoccupied ground on the west is, I believe, reserved for the building's extension). In Brussels or Vienna they would have had wider and better-lighted corridors, but these advantages would have involved extra space, and of this there was none on the restricted Law Courts' site without giving up some of the accommodation demanded. It is impossible adequately to see the building from any side. The improved approaches to it from the north have yet to be made.

On the other hand, the domestic buildings of this country are without rivals elsewhere. Compare an English country-house, erected from the designs of any of our architects who have made themselves a reputation for such work, with a modern French *château* — even with the published ideal of Viollet-le-Duc— and the superiority of the English work is evident; and not only in sanitary appliances is this superiority apparent, but the arrangements of plan to promote comfort, and the air of homeliness which pervades the vast majority of modern English houses, have, I believe, never been approached in former times or in any other country. America may be very near us in this matter. She has certainly surpassed Europe in the originality and boldness of some of her buildings for other purposes, but the English home is still unrivalled in its quiet attractions. One can hardly leave the home without a word about the garden which surrounds it, and which adds so much to its charm. If those of us who devote our attention to domestic architecture were to make more of a study of landscape gardening than we do, I believe that there would be more complete harmony between the house and its surroundings than is now often the case; while to the architect himself there can hardly be a more delightful change of occupation than to turn from the disappointments inseparable from building operations, to the development of those surroundings in which Nature is to play her part; as those know from experience whose clients have sought their advice in the garden as well as in the house. In the "Journal of Proceedings" we have been recommended on the one hand to turn to the grand style—that is, the formal garden of the seventeenth century; on the other, to give a free hand to the picturesque. But what may suit one house and one site may not suit another. In my opinion advantage would result if we cared to qualify ourselves to give an intelligent opinion on what may add so immensely to the attractions of our work as architects, or do so much to ruin its effects.

To return from country to town. The schemes for the improvement of communication in London too often leave much to be desired. The properties adjacent to those actually interfered with by such new thoroughfares should, if possible, also be scheduled where necessary to secure eligible building sites; and so prevent difficulties of light and air, do away with jobbing, and give the public some more adequate return for the cost of a new street. Instead of which, building plots on the streets recently made through the heart of London have been too much composed merely of frontage, with rookeries of dilapidated tenements in the rear, whose proprietors through their representatives have reaped a harvest of compensation for injured lights.

The effect of new streets upon the adjacent existing architecture ought also to be most carefully considered, and, if unsatisfactory, some means should be taken to mitigate the awkward blemishes thus occasioned (hear, hear). The way in which the southern end of Shaftesbury-avenue has destroyed one of the segments of Piccadilly-circus is unfortunate (applause), however welcome the open space thus created may be in itself. The erection of a statue, which appears to have been contemplated, on the triangular island west of the Avenue, would do little or nothing to remedy the now somewhat unpleasant grouping of the surrounding buildings; but three plane-trees planted at the corners of the island would, by their soft outlines, obliterate, in measure at any rate, the architectural discord which has been created, and add a charm to a somewhat meaningless open space. They would not, of course, prevent the erection of a group of statuary or a fountain in the centre.

Members of the Institute have, from time to time, made very pertinent remarks on the subject of our unfair and oppressive law with regard to the rights which one neighbour may acquire over another's property by putting out windows overlooking the latter, and so restricting its use as a building site. This is pre-eminently a subject for the attention of the Institute; and surely, if it were gone about in the right way and with sufficient energy, an Act might be passed removing, to a certain extent at any rate, one of the greatest sources of annoyance and expense incident to building in towns. We know that in Scotland no such vexatious restrictions exist. I believe in America there is similar freedom. In France, too, the difficulties of the building owner are as nothing compared to what they are with us, though he is subject to the very proper regulation that the extreme elevations of buildings lining streets should bear a certain proportion to the width of the street. The *unreasonable* enjoyment of light which a dominant owner may have been blessed with for a certain period, simply because his neighbour has delayed the exercise of his own rights during that period, should be no cause, it appears to me, why he should be left in undisturbed possession of such unreasonable enjoyment for ever, to the detriment of his neighbour and his successors. Unfortunately, the length of time that the present law on the subject has run presents serious, but I trust not insuperable, difficulties in the way of an alteration for the better (applause).

But though we may long for this, there is something to be said on the other side. As artists, we must often have to deplore the excessive height to which our buildings have been allowed to go when unrestricted by questions of light and air, not so much on their own account perhaps as because of their injury to neighbouring buildings. The effect of many a fair and beautifully-proportioned building of modest height has been utterly destroyed by the overgrowth of some upstart by its side; and, though we may not always be able to control our clients in this respect, I feel sure that no true artist would willingly by his own work injure that of another. Nor are architects the only offenders against good taste in this respect. There are works of sculpture which I think are on too gigantic a scale for their surroundings. Nobody who observes these things would regret if His Majesty George IV. were not so prominent an object when seen in front of St. Martin's Church, of which it destroys the scale; and the same may be said of other monuments in the vicinity (hear, hear). In contrast, I would call attention to the old statue of Charles I. and to that of General Gordon by Mr. Thornycroft, just erected in the centre of Trafalgar-square (hear, hear). The figure here is but 9 ft. 6 in. high, and the pedestal, the object of evident consideration on the part of the sculptor, is correspondingly modest in size. The statne does not fail to attract due attention, though it cannot be said to dwarf anything in its neighbourhood.

During the past year we have had to lament, and do still lament, the death of several influential members of this Society. January was a fatal month. George Godwin, the founder of the Bursary for the Study of Modern Architecture, a prominent figure in the architectural world for nearly fifty years, and an active Member of the Royal Commission on the Housing of the Poor, died on the 27th; our President, Mr. I'Anson, on the 30th; and M. Questel, our Corresponding Member, and the Senior Architect Academician of the Institut de France, on the same day. Our late President, like Street, died during his term of office. He was seventy-six, looked back upon more than half a century of practice, and was universally respected and held in honour by all who knew him (hear, hear).

Then there was Edmund Woodthorpe. Though by the measure of years he had attained the age of seventy-five, he was the most juvenile among us whenever he appeared. Long will his joyous tones and genial wit dwell in our memories, and make us lament the removal of so young and elastic a spirit (hear, hear).

Joseph Clarke, past Vice-President, whose death I have also to record, was identified with the Gothic revival by his numerous churches, the active part he took in the establishment of the Architectural Museum, and the unflagging energy with which he promoted its interests.

Nor must I omit the name of Richard Popplewell Pullan from the list of our losses. He and I sat side by side as fellow-pupils of Mr. Lane, of Manchester. He then showed his powers as an artist, and his great interest in ecclesiology and kindred subjects. His practice as an architect was not great, but he devoted himself with enthusiasm and success to archæological pursuits. His works in conjunction with M. Texier on Ancient Remains in Asia Minor, and on Byzantine Architecture, are of lasting value. We are indebted to him also for the publication of some of the drawings left by his brother-in-law, William Burges.

The Institute has also lost Mr. T. Gambier Parry, who had been an Hon. Member since 1865, and whose services to architecture and the subsidiary arts were of a high order; his latest literary work, entitled "The Ministry of Fine Art," and published in 1886, is a series of thoughtful essays on subjects which their author was peculiarly fitted to discuss. Another death, that of John Pennethorne, who first detected the horizontal curves of the Parthenon, and to whose memory a just tribute has been paid by

Mr. Penrose, occurred in January of the current year.

Our sympathy must be offered to our Scotch brethren in the recent loss of one of their most prominent members, James Sellars, President of the Glasgow Institute of Architects. He died comparatively young, but not before having made his mark in his native city,—the International Exhibition buildings being one of his latest successes. His high character and engaging kindliness of manner made him hosts of friends to lament the premature shortening of a career in which he had already done so much so worthily (applause).

The biographies of two of our most remarkable modern architects, which have both appeared since November last, are of great interest. George Edmund Street's "Life," by his son, has about it an unusual freshness and charm, arising partly from the father's marked individuality of character, and partly from the skill with which the materials for his "Life" have been put together. In amazing power and energy, love of work, beauty of draughtsmanship, and skill as a designer, he can hardly have had his equal. His sterling honesty of purpose and kindliness of nature, eved if occasionally hidden behind a determined manner, endeared him to those who knew him best. He was the most thorough and consistent supporter of revived Mediæval architecture throughout his remarkable career—a career full of interest to every architect from the days of his pupilage under Carter to his burial in Westminster Abbey. His Presidential Address from this chair is probably the most outspoken we have ever listened to. His lectures as Professor of Architecture at the Royal Academy supplement his "Life," and should be in the hands of every student.

The other biography I would allude to is that of a very different but also very remarkable man, Henry Hobson Richardson, of Boston, U.S.A., an Honorary Corresponding Member. Street was the king of draughtsmen, and drew every detail of his innumerable buildings himself. Richardson, on the other hand, was supposed never to have designed one of his later and more perfect buildings with his own hands; yet no architect ever put his name to structures which were more unmistakably his own creation. Street made the pointed arch the key-note of all his construction; Richardson saw the capabilities of the round arch, and his work in great measure was based upon Romanesque, though he treated it in his own original fashion. His works are so remarkable that I feel sure you will allow me to say a little more on a subject which has for me a singular fascination.

Richardson was a student of the École des Beaux Arts. He remained in Paris six years, working as a student and draughtsman, for he had to earn a living as well as to study, and lived practically two lives in one. In those days his great ambition was to go to Athens and Rome. He never, in fact, went to either, and, in spite of his training, never was architect less influenced by what these two centres of past art would have had to teach him. On his return to America in 1866, his first designs were in thirteenth-century Gothic, and in no way remarkable. But in 1870 he gained in competition the execution of Brattle-square Church in Boston, a building remarkable for its campanile with deep sculptured frieze, a tower so original as to be like nothing he could have seen or heard of elsewhere, though it has about it a certain Romanesque air. The neighbouring Trinity Church followed soon after, with a central tower of excellent proportions, both in itself and as part of the composition of which it was, of course, the crowning feature. In construction it is no less bold than its detail is beautiful. Its weight of 8,500 tons is supported by four granite piers with a collective area of 100 square feet. His public libraries, of which he built several, have a family likeness in their plan and style, though each proclaims its distinctive character. His Pittsburg Court House, Field's Chicago Buildings, and Cincinnati Chamber of Commerce are buildings of a monumental character, and give evidence of an original creative mind, free from prejudice and unfettered by precedent. Richardson's peculiarities may be seen in all. These peculiarities appear to be chiefly the discarding of the orders, the Romanesque feeling, admirable planning, appearance of strength and soldity, the value put upon mere wall surface whenever attainable, the treatment of this surface by the varied coursing of the stonework, and the contrast between tooled and rough surfaces; the use of coloured materials, especially of stone of different hues; battered bases, sparing use of string-courses, the introduction of deep voussoirs, the rounding of salient angles, and a leaning to circular forms on plan. In his later work his corbels are rounded and covered with delicate incised carving instead of mouldings, and his capitals are convex rather than concave. All these peculiarities appear to be based on sound judgment, and to be excellent in every way. On the other hand, if criticism were in such a case allowable, there seems, to my eye, almost an affectation in the shortness of some of his columns, and want of height in many of his circular archways. There is something ungainly in the upper part of transomed windows being made wider than they are high. It is also to be regretted that in many of his buildings the ridge and hip tiles and gable finials appear to be so heavy as to dwarf the general effect. In 1882 Richardson visited for the first time Southern France, Northern Italy, and Northern Spain, and only then saw the best specimens of architecture from which he drew his inspiration. The effect of this tour, though he allowed himself no time for sketching, is visible in the works he executed in the short time afterwards left him. His becoming so devoted to, and so skilful an originator in, a style the best examples of which he had not seen, is in itself extraordinary, unless, indeed, a Romanesque wave had affected the American architectural mind before his advent. He seems to have created a new-born interest in architecture in America, perhaps by doing exactly what he thought best suited to the expression of his buildings, without going out of his way to look for precedents. In consequence, his work is never commonplace. He has left behind him a school of young Americans who appear to be following his steps in developing the capabilities of Romanesque Art, —an art which, we must bear in mind, did not die of inherent weakness, but was extinguished before its time in the twelfth century by the difficulties of vaulting oblong spaces, and the consequent introduction of the pointed arch. I have, perhaps, said enough to show that Richardson's "Life," by Mrs. Van Rensselaer, illustrated by photographs of his works, is worthy of earnest study (applause).

An appeal has just been issued by M. César Daly to his brother-architects of France, England, and America, in favour of what he calls the "Hautes-Études." He would have those who are interested in, and gifted for the work, seek for the causes which have affected architecture in different times and places, and given it its varied outward development. He is sanguine that such search for first principles would lead to progress, and tend to check pure archæological work on the one hand, and irrational eclecticism on the other, which he describes as the pillage, more or less skilful, of old monuments, but not the conservation of great traditions. He condemns the present fashion of following our individual tastes, each architect being a law unto himself, and laments that Duc's prize for an "Essay to determine the style and form of modern architecture" has not been properly competed for. The "Hautes-Études," if set about in earnest, ought to do much to remedy these and other evils so eloquently set forth in the appeal. M. Daly proposes an International Congress of Architects to be held in Paris next year during the great Centenary Exhibition, for the purpose of considering these higher questions. All must heartily wish him success in these his persistent endeavours to advance our art by a deeper and more systematic study of its principles.

Of new publications within the year I must mention Professor Hayter Lewis's "Holy Places of Jerusalem," which will appeal to various classes of readers. By his intimate acquaintance with the authors, ancient and modern, whose works bear on the subject, and by his conscientious study, on the spot, of buildings which illustrate his theories, the writer has produced a work of unusual interest.

Mr. R. Phené Spiers's book on "Architectural Drawing" has brought a valuable addition to the architect's library. His subject is handled with such care and thoroughness that draughtsmen must find in his letterpress and illustrations much to interest and instruct.

Mr. Alexander Graham and Mr. H. S. Ashbee, in their "Travels in Tunisia," describe a ruined country in lively fascinating style. The work is replete with valuable information, not only on architectural and archæological subjects, but on the everyday matters of life and ordinary commerce. They give also an excellent bibliography of the country they describe, and their book is a guide of great value to the traveller in search not only of general knowledge, but of a deeper acquaintance with the remains of Roman civilisation in an important part of Northern Africa than falls to the lot of the ordinary tourist.

Our profession being, in an especial degree, among the fine arts, based upon study of the past, the value of historical research respecting it, and of pictorial reproduction of the works of great masters, can hardly be overrated; and I am, therefore, induced to mention a large folio work* upon which our esteemed Member, Baron de Geymüller, in concert with other distinguished men, is now engaged. It is proposed to do, under his superintendence, for Tuscany what has already been done for the Renaissance works of Rome, in the illustration and analysis of great public and private buildings. Baron de Geymüller has presented to the Library the first two numbers, and our "Journal of Proceedings" will from time to time contain detailed notices of this valuable work.

Of the numberless exhibitions of the year, that of the "Arts and Crafts" is one to which we may give a most cordial welcome (applause). It brings into notice those arts to which the ordinary picture exhibition turns the cold shoulder, and which, delightful in themselves, are essential to the architect. The decorative artist and the art workman have, within the walls of this Exhibition, an opportunity at length afforded them of making themselves known to a wider and appreciative public.

The important questions to which I have been alluding,—the direction and design of new streets, the law of light and air, the heights of new buildings and their relation to the width of the streets,—are all subjects pre-eminently fit to be submitted at no distant date for the consideration of the new Council of the County of London, of which I am glad to think our distinguished Hon. Fellow, the Duke of Westminster, is to be the first Lord-Lieutenant. There are, however, other questions of like importance as far as we architects are concerned, which we can, if we choose, of our own will settle,—or, at least, bring to such a point as will conduce to a future settlement, when our profession is, perhaps, in a more homogeneous condition than it is at present, and when uniformity of professional practice will be regarded as necessary to the position and welfare of the members of a liberal profession (hear, hear).

My predecessor, in his first Address to you, Gentlemen, from this Chair, urged us to remember that the Institute and the profession are in principle one and the same force, inseparable and indistinguishable one from the other. I entirely agree with the proposition, and in my opinion the first duty of the Institute is to guard the honour of the profession (applause)—to take care that its members do nothing derogatory to their professional character; or, at the worst, that they shall not do so with impunity (hear, hear). I am not now alluding to illicit or surreptitious commissions or allowances, or of the offers sometimes made of something by way of consideration for employing certain people or their wares on our clients' works. I trust that, owing to the powers vested in the Institute and the right feeling of its members, such malpractices are of the past. I mean that when any of us undertake duties of public trust, whether it be in an honorary or a paid capacity, in any office or on any Council or Board, we ought to scrupulously avoid using our position for any private ends or gains, whether as professional men or as individuals. In an address delivered nearly ten years ago from this chair, at the opening of the Session for 1879-80, the late Mr. Whichcord referred to the Metropolitan Board of Works and the professional men who might be members of it in the following terms:—

"Architects may be elected members of that Board just as barristers, solicitors, and doctors may be so elected. It would be ridiculous to say that professional men shall not sit at that Board because they may have had a pecuniary interest in some of its building transactions. But I shall run no risk of censure when I say that *a Fellow or an Associate of this Institute, if he be elected a member of the Metropolitan Board of Works, ought not, from that moment, to have any professional connexion whatever with the purchase of land offered for sale or lease by the Board; nor should he be professionally engaged in the superintendence of buildings to be erected on land which is the property of ratepayers whose agent and representative he is*" (applause).

* "Architectur der Renaissance in Toscana nach den werken der meister geordnet." Munich. Published and continued by Dr. Karl von Stegmann. Members should examine the two Parts in the Library.

The late Mr. Street, in 1881, repeated those words, as I have just done; and I cannot but think that the advice they offer, or the warning they convey, may be advantageously studied by all who aspire to sit on the County Councils that are about to be summoned under the provisions of the new Local Government Act. If the Institute is still to flourish,—if the character of the profession is to be maintained,—it must be by jealously raising the standard of conduct of the individual members rather than allowing it to be lowered through the indulgence of any good-natured laxity (loud applause).

We need not despair of success in stamping out abuses if only we are convinced of the necessity of so doing, and are earnest in the endeavour. Something, at least, has been done within the last few years to render architectural competition less liable to unfairness and jobbery than before. It is now well understood that there is one man who must not under any circumstances undertake the office of architect to the building competed for, and that is the assessor. Nothing would be easier for an assessor than to play cuckoo to the poor hedge-sparrows of competitors, who are pretty much at his mercy, and nothing obviously more unfair. But such an abuse, if it has occurred, may now be considered a thing of the past.

There is another point of professional practice in which we might probably see more justice done than at present. We are in the habit of regarding the Bills of Quantities issued to competing builders as final instruments, incapable of containing error unless the successful builder finds it out between the day on which he sends in his estimate, and the day on which he signs his contract, which may be the day after. Are we in these matters as scrupulous as we ought to be that justice be done to the builder? His lot, owing to the severity of the competition to which he is generally subjected, is a sufficiently hard one, without our making him practically responsible for other men's errors. Our Scotch brethren measure up the work after completion, though competed for in the ordinary way on preliminary bills of quantities. If we are not prepared for that, let us at least be willing to allow for the correction of errors in taking out the quantities, when it is obvious that omissions have been made (hear, hear). Some few architects are in the habit of telling their clients that they must not hold their surveyor personally responsible for the correctness of his quantities, but that he is a man of position, will do his work with the greatest care, and allow no margin for contingencies. I have rarely met with an employer who failed to see the justice and even advantage of such an arrangement. There would be obvious convenience in uniformity of usage in this matter, and in other points of professional practice also; for instance, I believe great divergence of opinion exists as to whether an architect is bound to give more than one set of drawings, or of tracings of his drawings, for the use of the works. I have until lately adhered to the view that he is not, but the great facility now offered by the ferro-prussiate sun-printing and other kindred processes enabling us to reproduce any number of copies of a tracing without the possibility of error, and thus saving all trouble of examination, seems to put this question in a new light. I am of opinion that the Institute might suggest a mode by which a somewhat more generous supply of fac-similes of the contract and detail drawings might be supplied gratis to the contractor with little more expense to the architect than at present (hear, hear). Two things are obvious, the necessity of receiving payment from the builder for additional copies of drawings should be done away with, and uniformity of practice in this matter should be aimed at. It is known that in France, where, owing to the great number of independent contractors employed on the same work, the re-duplication of drawings is a more serious affair than with us, the architect, nevertheless, considers it part of his duty to supply them all without extra charge. The great number of drawings required by municipal and other corporate authorities is also a considerable tax upon us or our clients, and it would be well if such bodies could be persuaded to take mounted sun-copies instead of tracings on cloth.

Then there is the desirability of a more general application of the arbitration clauses (Nos. 20 and 21)* of the "Heads of Conditions of Building Contracts," sanctioned by the Institute and agreed to with the representative builders of the country. I know that there are architects who put in the building contracts they make, as the agents of their employer, a clause to the effect that the architect is to be sole judge, arbitrator, or umpire in any dispute which may arise between the two parties,—the architect, as the agent of his employer, being one of the said parties; and I know that there are builders,—sharp, shrewd, and alive to their own interests,—who are willing to put their names to such documents; but it is a practice of doubtful expediency, and I urge upon the young men who are here to-night, before they impose arbitrary conditions of the kind, to reflect that no man can be fairly or safely judge and party in the same case (hear, hear).

We have heard something lately of the conflicting terms "professional man" and "artist" as applied to the architect. Now in my opinion the true architect is both. The higher and more systematic education, which we are hoping for and getting, will train us in the efficient and easy practice of our profession,—a profession which is open to all men of education, intelligence, and industry, and one in which the greatest successes will attend those to whom further an artistic perception has been given, and in whom it has been carefully cultivated. In speaking of an architect as an artist I do not mean that he is to be a clever draughtsman merely,—far from it. A man may be the most exquisite of draughtsmen, and yet be entirely deficient in the critical sense of what it is that makes a work of architecture beautiful. His works then will not be beautiful, and, so far as his architecture is concerned, he will not be an artist. While not neglecting to cultivate our powers of delineation, we might, perhaps, do more to make those powers of use to us than many of us do at present. If, for instance, instead of sketching ancient examples so much, we were content to do half as much in this way, and afterwards were to endeavour to reproduce our sketches and scale drawings from memory, we should accomplish two things,—marvellously sharpen our observing powers, and greatly increase our facility in design. We should make the building we are studying our own; it would be in our heads and not merely in our sketch-books. Our memory drawings would be tinged with our own individuality and shortcomings, which it would be well to correct by after-reference to our original drawings, or, better still, to the building itself if accessible. And, further, if time could be spared to analyse the sources of our satisfaction in the object of our study, to take notes of its excellences or defects of plan, construction, and detail, that time would not be lost; though we might have less to show to admiring friends, fewer trophies to hang on these walls as evidence of our industry and powers of draughtsmanship on our return from a tour, the result of victory in some Institute prize competition. I wish it were possible for the Institute to discover, not merely what our prizeholders draw during their tours, but what they have learnt, what they have assimilated, what has become part of themselves (hear, hear). I believe the study of one excellent example,—say a church,—if thoroughly done, would do more to make an architect than rushing, sketch-book in hand, through half the cities of the world, even if years were spent in this sort of travel. I speak not as one who has already attained to any sort of excellence in this way, though I begin to see clearly what I have lost by not practising it.

It is to our young architects that we look for triumphs in the future. We rejoice in the prosperity and vitality of the Architectural Association, and make its members again welcome to the use of this room for their Friday evening meetings (applause). The desirability of establishing a kind of "Common Room," in which the young and old of our profession may meet and exchange ideas, was strongly urged by Mr. Appleton in his recent address. I can only repeat that in this, as in all other things, the Institute will help the Association as far as lies in its power. The annual prizes which the Institute has to bestow, through the munificence of its members, are largely competed for, as they should be, by members of the Association, There is certainly a most encouraging excellence in the draughtsmanship of many of the designs sent in, and I think also in design itself there is to be noted an advance on former years. When the prizes were distributed last, it was remarked how few of those we wished thus to honour were present to receive their rewards. This was to be regretted, as it is always a pleasure to those who meet here to see, and it may be make the acquaintance of, their younger brethren who have so distinguished themselves. At the Royal Academy, the prizes won are not given at all unless the victors present themselves on the occasion appointed for their distribution. On behalf of competitors for travelling studentships, I would express the hope that means may be devised to reduce the length of time during which it is compulsory for the student to travel if the sum awarded fall very far short of the expenses likely to be incurred. The Soane 50*l.* studentship, for instance, involves a six months' tour. More may now be done in a shorter time than formerly, but at a proportionately greater outlay, and the inadequacy of the sum to cover the expenses of so long a period of travel no doubt prevents many, who would otherwise be inclined to contest the prize, from entering the lists.

Our reverence for the excellence of our forefathers' work, and our delight in what has been superadded to that excellence by the finger of Time, making it yet more lovely, is a characteristic of our own day, and will induce us to deal tenderly with old work when it comes under our care. But there are now, unfortunately, not many buildings left upon which the architect and workman can exercise their forbearance and show their reverence for the "charm of mutilation and the fascination of decay." It may be proper to enlarge, add to, or even pull down old work for new, but surely never to endeavour to make old work look like new. The mischief which has been done in this way in England is immense, but nothing to what has been endured in France and Italy. Now a better state of feeling on the subject of restoration is gradually extending to the latter country. If they appear to agree with us in theory, however, they do not yet altogether in practice. When in Venice last Spring I looked out in vain for an old friend, the Fondaco dei Turchi, by the Rialto. It had been rebuilt, and failed altogether to recall the impression of the old building which it is supposed to reproduce. Occasionally we may see our way to replace old work when research has made clear to us what it was originally, as Scott did at St. David's, and as Mr. Pearson is doing at Westminster Hall. Such cases must, however, be exceptional. It is certain that the past did not respect its own past as we do ours, and our practice, commendable as I think it, has, no doubt, its dangers. If we are for ever dwelling on the past, we shall not be self-reliant; and if not self-reliant, we shall never be bold originating architects (hear, hear). The Greeks spent their powers as artists in perfecting their own work, not in resuscitating a dead style; our mediæval brethren theirs in the marvellous development of their own phase of architecture; the artists of the Renaissance, in spite of their name, were likewise originators. It has been left to us to copy, or, as M. Daly puts it, "to pillage ancient monuments"; not, like the church-builders of Byzantium and Venice, by boldly robbing other buildings, to create fresh architectural marvels out of the material thus provided, but by reproducing old forms, with more or less

* 20. Provided always that in case any question, dispute, or difference shall arise between the employer, or the architect on his behalf, and the contractors, as to what additions, if any, ought in fairness to be made to the amount of the contract by reason of the works being delayed through no fault of the contractors, or by reason or on account of any directions or requisitions of the architect, involving increased cost to the contractors beyond the cost properly attending the carrying out the contract according to the true intent and meaning of the signed drawings and specification, or as to the works having been duly completed, or as to the construction of those presents, or as to any other matter or thing arising under or out of this contract except as to matters left during the progress of the works to the sole decision or requisition of the architect under clauses Nos. 1, 9. and 10, or in case the contractors shall be dissatisfied with any certificate of the architect under clause No. 7. or under the proviso in clause No. 15, or in case he shall withhold or not give any certificate to which they may be entitled, then such question, dispute, or difference, or such certificate, or the value or matter which should be certified, as the case may be, is to be from time to time referred to the arbitration and final decision of ..... architect, or in the event of his death or unwillingness to act, then of ..... architect, or in the event of his death or unwillingness to act, then of an architect being a Fellow of the Royal Institute of British Architects, to be appointed on the request of either party by the President for the time being of such Institute, and the award of such referee is to be equivalent to a certificate of the architect, and the contractors are to be paid accordingly.

21. Upon every or any such reference the costs of and incidental to the reference and award respectively shall be in the discretion of the referee or arbitrator, who may determine the amount thereof or direct the same to be taxed as between solicitor and client, or as between party and party, or otherwise, and may award and direct by whom and to whom and in what manner the same shall be borne and paid, and this submission may be made a Rule of any Division of the High Court of Justice upon the application of either party, who may instruct Counsel to consent thereto for the other party without any notice being given to such party.

ability, but also with more or less inappropriateness. Does it not behove us occasionally to consider this question seriously, and to ask ourselves to what good end this eternal copying and adaptation is to lead? We see that in America they are shaking themselves free from tradition. No doubt it is comparatively easy for them to do so; but are we to allow them to monopolise the guidance of common sense in architecture? May we not also make greater efforts than we have hitherto done to express the purpose of our works in a language of our own; to clothe our buildings, not in the cast-off garments of bygone ages, but in materials cut out and fashioned to suit ourselves and our own needs? We may love and reverence the past as archæologists, but as architects let us not forget that archæology is the bane of living progressive architecture, and that if our art is ever again to evoke popular enthusiasm, it must do so by embodying the thoughts, the aspirations, and the genius of the living people for whom we build (hear, hear).

I fear I have already tried your patience (No, no), so I will detain you no longer, but conclude these somewhat discursive remarks by expressing the hope that we may all, both in our private practice and as members of this body corporate, do our utmost to give our art a firmer hold on public admiration and attention, and our profession respected by all with whom we come in contact, so that every member of the Royal Institute of British Architects, whether his work be lovely or not, may, at any rate, show in his life the things that are honest and of good report (loud applause).

Of the speeches which followed the address we give a report on a subsequent page.

ALL SAINTS', EDMONTON, AND ST. JOHN, SOUTH HACKNEY, PARISH CHURCHES.

On Thursday, 25th October last, Dr. Tristram, Q.C., Chancellor of London Diocese, presided over a sitting of the Consistory Court in St. Paul's Cathedral. Two faculties were granted by the Court. One is for restoring and converting into a side chapel the southern transept, now occupied by the organ and for the vestry, of St. John of Jerusalem parish church, South Hackney, at an estimated expense of 1,900*l*. This fine church, designed by Mr. E. C. Hakewell, architect, was consecrated in 1848. The other faculty relates to All Saints' parish church, Edmonton. There, under the directions of Mr. Scott, architect, it is proposed to increase the accommodation by 200 seats, and to make in addition sundry minor alterations. This will be effected by enlarging the aisle along its southern side—an extension which it is contended will result in a great improvement to the fabric from an architectural point of view. This church was built in the middle of the fifteenth century, and consisted of a chancel, nave, northern aisle, and a square, embattled tower, after the type that is not infrequent in that part of the county. In 1772 the body and chancel of the church were encased with brick, and some of the window tracery was replaced with woodwork. Partly through the munificence of a late vicar, the Rev. R. E. Copleston, in 1871 choir stalls, a new font, and a stone reredos were set up, in supplement to a restoration of the interior five years before. The monument to John Kerton, to which a reference was made in the Court, was erected in 1471; it rests beneath a depressed Gothic arch, ornamented with foliage. This monument will be transferred to a corresponding position on the new wall. Weever speaks of some early fifteenth century monuments or tombs that are now lost or destroyed. There are, however, brasses to John Asplyn and Geoffrey Askew, and Elizabeth, who was widow to the one and wife to the other; also to Nicholas and Edward Boone (or Bohun), early sixteenth century, with one of 1616 to Edward Nowell and his family. The eastern and two southern windows were inserted to the memory of Mr. E. T. Busk and Mr. R. E. Copleston, respectively. About twenty-two years ago a new tenor bell, weighing 11 cwt., was added to the peal.

Edmonton Manor, the Adelmeton of Domesday Survey, belonged *temp.* Eadward the Confessor to Asgar, stallarius or Master of the Horse to the king, and was valued at 40*l*. The Conqueror bestowed it, together with Eia Manor and other possessions held *ex officio* upon Geoffrey de Mandeville, or Magnaville, whose descendant was created by King Stephen, Earl of Essex, and, having been killed at Burwell, 1148, was re-interred in the (second) Temple, London, where his effigy may be seen in the Round Church. His shield, charged with a sun, is supposed to furnish the earliest instance of armorial bearings so displayed. Until 1370 the manor was vested in the Lords Saye of Berling, from whom it passed to the Charltons. On the attainder, 1st Henry VII., of Sir Richard Charlton, the property escheated to the Crown, and eventually became part of the marriage settlement of our Queens Henrietta Maria and Katharine of Braganza. The vicarage, which dates from 1335, had long been appropriated to the monks at Hurley. At the Dissolution Henry VIII. granted it to Thomas, Lord Audley, who surrendered it again to his Sovereign in 1544. The following year the King gave it to the present patrons, the Dean and Chapter of St. Paul's. One Peter Fanelour, a landholder in Edmonton, and co-founder of the chapel dedicated to St. Mary Magdalen and All Saints, which formerly stood by the Guildhall, built a little chapel next to the parish church, and founded therein a chauntry for two priests. He died in 1361. The registers record the baptism, July 5, 1586, of Elizabeth, who by marriage to Charles Stuart, Earl of Lennox, was mother of the unfortunate Arabella Stuart; and the burial, on June 25, 1737, of the Lord-Treasurer Harley's widow. Archbishop Tillotson, when Dean of St. Paul's, often sojurned here, at the parsonage-house, whence he removed his collection of exotics to Lambeth. Amongst other worthies should be mentioned Charles Lamb, who spent the two closing years of his life at "Mr. Walden's, Church-street, Edmonton," — Bay Cottage; Keats, who served his time under Hammond, the surgeon, of Church-street, where he first read Chapman's Homer and Spenser, and composed his earliest volume of poems; and Cowper. Lamb's grave is on the right-hand side of the path leading from the south-western corner of the churchyard: his friend Cary, the translator of Dante, wrote the epitaph. In 1847, Mary Lamb was buried in her brother's grave.* Some of the roadside inns hereabout are commemorated in a little book dedicated to John Offley, of Madely Manor, co. Stafford, and printed for Rich. Marriot, in S. Dunstan's Churchyard, Fleet-street, 1653, which concludes with an invocation of "*the blessing of Saint* Peter's *Master* . . . . upon all that hate contentions, and love *quietnesse*, and *vertue*, and *Angling*." One of these is the "Bell," at Edmonton,—a favourite resort of Lamb, by the bye,— which, dating from the end of the sixteenth century, and as rebuilt in 1878, and by its new sign of the Bell and Johnny Gilpin, perpetuates the story of the most humorous ballad that ever was written in our English tongue. On September 8 last we announced that Mr. T. Milbourn, architect, would furnish a design for a mural monument, in the church, in memory of Cowper and Lamb.

* In the *Athenæum* of November 30, 1833, was printed the very last Essay of Elia; on December 27, 1834, he died.

Illustrations.

CHASTLETON HOUSE, OXFORDSHIRE.

THIS interesting house, picturesquely situated on the borders of Oxfordshire, about four miles from Moreton-in-Marsh station, was built by one Walter Jones, originally of Grismont, in Monmouthshire, in the reign of King James I. He purchased the estate from Robert Catesby, of Gunpowder Plot renown.

It is built of local stone, and the roofs are covered with green slates, all weathered to a beautiful colour.

The house is full of interesting objects,—tapestries, cabinets, furniture, &c.; and most of the rooms are panelled and have elaborate plaster ceilings.

The illustration shows one of the sides, with the staircase tower, and was exhibited in this year's Royal Academy Exhibition.

E. G. D.

DESIGNS FOR WALL DECORATION.

THESE designs are reproduced from large cartoons designed by Mr. J. Aldam Heaton, and which were exhibited in the Architectural Room at the last Royal Academy Exhibition, when we drew special attention to the fine and original quality of design which they displayed.

Mr. Heaton says: "The larger of the two is a wall panel, introducing acanthus, oak, and privet: oil painting on roughish canvas, backed with papier-mâché; one of a series of foliage subjects for the sides of the saloon of an Atlantic steamer. Before painting, the canvas has been silvered and lacquered down to a quiet, bronzy-gold colour, forming a tolerably neutral middle tint, which appears continually in small fragments, thereby considerably reducing the amount of painting in small details, and rendering the decoration of a large surface by one hand possible. The acanthus and privet are in varied greens, inclining to gold and russet, the oak in blues and greys, on a ground of deepish greeny-blue. The foreground follows the style of the finer kinds of mediæval tapestry.

The smaller illustration constitutes a frieze to the former, of the same materials and treatment (but somewhat gayer), only that it is bordered by a simple and severe frame of leaf and scroll, all in transparent gold-coloured lacquers, while the centre of the composition is in solid oil colours, green, blue, yellow, and delicate flesh reds.

The much too great depth of the frieze, in relation to the wall panel below it, was the result of constructional necessities."

[We may observe that it is only since the lithograph was prepared that we have received from Mr. Heaton the information that the long narrow panel was in reality the frieze to the other portion of the design. There was no hint of this in the Academy catalogue. Had we been aware of that, we should have had the two lithographed in their proper relative positions as wall-space and frieze, even at the cost of some further reduction in scale. The designs being sent to us as two independent pieces of work, they were arranged on the page with the view of getting the detail to as large a scale as the space would admit of.]

STABLES, NORTHLEACH.

THESE stables have been recently erected from the design of Mr. John Belcher, local stones being used for the walling, dressings, and roofs.

The *Builder* critique on this year's Royal Academy Exhibition having remarked upon a Roman-Doric feeling in the Colonnade, it will be interesting to state that the remains of Roman buildings at Chedworth, in the neighbourhood, furnished the *motif* for their details.

The drawing was hung in the Architectural room at the last Royal Academy Exhibition.

"HERNBROOK," HORSHAM.

THIS house has been built for Mr. W. Barclay Sandeman. It stands in an elevated position on the road from Horsham to Brighton, and is surrounded with a small park.

The materials are red brick, with dressings of Box-ground Bath stone, the roofs being covered with dark red tiles. The interior is plainly finished, its chief feature being the entrance and staircase-hall, of which the ceiling is ornamentally panelled, and will be decorated in colour; while the window is filled with stained glass made by Messrs. Moore & Son, of Southampton-row.

At a short distance from the house are the stables, constructed of rough local stone, with the upper parts half-timbered. The entrances are from the St. Leonard's-road, where there is a rustic lodge, and from the Brighton-road, where the proposed lodge has not yet been erected. The whole has been executed from the designs and under the superintendence of Mr. Charles Barry, F.S.A. The contractor was Mr. Mitchell, of Dulwich, and the cost of house and stables has been 5,720*l*. The clerk of works was Mr. Hogan, of Dulwich. Mr. Cannon, of London-road, has executed the gas and warming apparatus, and the hot-water arrangements.

COTTAGE HOSPITAL, RUABON.

THIS hospital (of which we gave a full description in the *Builder* for January 21st of this year (p. 51), has been built, with special view to meeting "accident cases," by Sir Watkin Williams Wynn, Bart., in memory of his late uncle, the sixth baronet. It has been erected from the designs of Mr. W. H. Spaull, architect, Oswestry, and is situate on the left side of the road leading to Rhosllanerchrugog, in close proximity to the village, and in the centre of a large colliery and manufacturing district.

The lower part of the building is faced with red bricks and terra-cotta; the upper part is

half-timbered, the oak used for the purpose having been grown on the Wynnstay estate. The roofs are covered with red tiles.

The wards, lavatories, corridors, &c., are lined 4 ft. high with glazed bricks from the works of Mr. J. C. Edwards, of Ruabon, who also supplied the terra-cotta. It will be noticed that the bath-rooms, lavatories, &c., are properly cut off from the wards by cross-ventilated passages. We are informed that the ventilating-pipes from the drains are carried up out of sight, with the outlets through the centres of the finials on the octagon roofs. The bricks were supplied by Mr. Bowers, the heating-apparatus by Messrs. E. Thomas & Co.

The cost of the building, exclusive of land and furniture, was 2,030*l*. The cost of furnishing the hospital was also defrayed by Sir Watkin, with the exception of the two-bed ward, for which Mr. J. C. Edwards, of the Terra-cotta Works, Ruabon, made special request to be allowed to provide the furniture.

The hospital was originated by the Dowager Lady Williams Wynn to meet a sudden emergency caused by a terrible colliery explosion, and was carried on for many years in a cottage the property of the late Sir Watkin Wynn.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE opening meeting of this Institute for the present session took place on Monday evening last at 9, Conduit-street, Mr. Alfred Waterhouse, R.A. (President), in the chair.

The By-Laws under the New Charter.

Mr. J. Macvicar Anderson (Hon. Sec.) said:—I desire to make a very brief statement in regard to the By-Laws. It will be in the recollection of the members of the Institute that at a special general meeting held last May, the By-Laws, which had been printed as amended, were instructed, in accordance with the Supplementary Charter, to be submitted with as little delay as possible, for the approval of Her Majesty's Privy Council. No time was lost in forwarding the By-Laws, and passing them into the hands of our solicitors, Messrs. Markby Stewart & Co., who also lost no time in passing them into the hands of the Privy Council. In order that the members of the Institute may know the exact position of the matter, I will read the letters received from the Privy Council. On the 30th of June our solicitors received the following letter:—

"Privy Council Office, Whitehall,
June 30, 1888.

Gentlemen,—I am directed by the Lord President of the Council to acknowledge the receipt of your letter of the 27th instant with respect to the proposed By-Laws of the Royal Institute of British Architects, and I am instructed to inform you that his Lordship is advised that there are two points in which the By-Laws are defective.

1. No provision is made for the examination of Associates in accordance with Clause 4 of the Charter of 1887, nor, indeed, is the passing of such examination required by any of the By-Laws now before the Privy Council.

2. It is observed that by Clause 65 of the By-Laws the conditions of competition for prizes, &c., are left to be defined by the Council of the Royal Institute, whereas Clause 34 of the Charter of 1887, Sub-sections (*a*) and (*g*) clearly require these matters to be dealt with in the By-Laws.

The Lord President is advised that the By-Laws ought not to be approved by the Privy Council until they are supplemented by others which supply the deficiencies mentioned, and I am to request that you will lay this letter before the Council of the Royal Institute in order that the necessary alterations may be made in the By-Laws.—I am, Gentlemen, your obedient servant,

(Signed) C. L. PEEL."

To that letter, after being submitted to the Council, Messrs. Markby Stewart & Co. replied:

57, Coleman-street, London, E.C.
July 6, 1888.

Sir,—"Your letter of the 30th ult. has been submitted to the Council of the Royal Institute of British Architects, and we are desired, in reply, to call attention to Sections 3 and 4 of the Charter, which provide not only that persons desirous to be admitted as Associates as from the date of the Charter, but also that persons desirous to be admitted as Fellows, should after the expiration of five years from the date of the Charter pass certain examinations, and it was not considered necessary, therefore, to do more in the By-Laws than provide for the appointment of examiners. In deference, however, to the view expressed in your letter, Clause 2 of the By-Laws has been amended by making it a condition that, in applying to be admitted, a candidate should declare that he has passed the examination required by the provisions of the Charter, and an addition has been made to Clause 41, under which the Council are bound annually to appoint a Board of Examiners in Architecture, for the purpose of conducting the examinations required by the Charter to be passed by persons seeking admission to the Royal Institute, either as Associates or Fellows.

With reference to Clause 65 of the By-Laws, it is impossible to describe in detail the precise terms of any competition, which naturally vary from year to year.

Therefore, the Council have been accustomed to issue from time to time programmes, of which we enclose two prints, and a new clause has now been substituted for clause 65 in the original print, which we trust will be considered to be a sufficient compliance with Clause 34, subsection G, of the Charter.—We are, Sir, your most obedient servants,

(Signed) MARKBY STEWART & Co.
The Clerk of the Privy Council."

To that the following letter was received, dated August 16:—

"Council Office,
August 16, 1888.

GENTLEMEN,—With reference to your letter of the 6th ulto., and to previous correspondence on the subject of the proposed By-Laws of the Royal Institute of British Architects, I am directed by the Lords of the Council to inform you that the amended draft By-Laws do not sufficiently meet the objections referred to in my letter of June 30 last.

As to the admission of Associates, the By-Laws should, their Lordships are advised, define—at any rate by general description—the character of the Examination which Associates have to pass, and as to the terms and conditions of competition for prizes, &c., the By-Laws should embody such of them as do not necessarily, or usually, vary from year to year.

The above omissions must be supplied before their Lordships can approve the By-Laws.—I am, Gentlemen, your obedient servant,

(Signed) C. L. PEEL.

Messrs. Markby Stewart & Co.,
57, Coleman-street, E.C."

Drafts of amended By-Laws meeting the views of the Privy Council have already been prepared, and are now in the hands of our solicitors for consideration, and will, as soon as possible, be submitted to the Privy Council. We hope, although in legal matters any hope, of course, must be qualified, that before long we shall be able to submit the revised By-Laws.

Action of the Council under By-Law 23.

The President said: It is my duty, in accordance with By-Law 24, to announce that by a resolution of the Council, unanimously passed on the July 30, pursuant to By-Law 23, Mr. James Ebenezer Saunders, Fellow, has ceased to be a member of the Royal Institute of British Architects (loud applause).

The President then delivered his inaugural address, which we print *in extenso* elsewhere.

Mr. Ewan Christian, in moving a vote of thanks to the President, said:—I am sorry that the task, or rather the pleasure, of rising to ask that you will accord your most hearty thanks to our President, for the very interesting and practical address with which he has favoured us this evening, has not fallen to abler hands. Mr. Waterhouse has traversed a very large and wide field, and I do not propose to follow him through all his wanderings, but I hope to be able to say a word or two upon some of the points on which he has touched. First of all, he has congratulated us on the completion of the work which was commenced during my presidency—that of revising the Charter, and completing the By-Laws by which it had to be accompanied. That, happily, is now within a short time, I hope, of being completely consummated. I am sure we must all rejoice in that, because it has been a source of great trouble and anxiety to get this properly and wisely completed, and I believe now we are within sight of it. Mr. Waterhouse has spoken upon a great variety of subjects. What he said upon the subject of Registration I most heartily agree with—indeed, I think most of us will concur with him when he says that education is what we want, and not "registration." I quite agree with him also in his advice to the student, that he should prepare for the Institute Examination, so as to pass it creditably and without resorting to cram. We want well-educated men as members of our body, and we hope we shall see a great many more of them as time goes on. There is one point on which the President has spoken very strongly, and I think very rightly,—that is upon the work of laying out our cities. He has commented very properly upon the dreadful work that has been done in destroying Nash's line in the laying out of Regent-street (applause). Nash may not have been a very superior architect, so far as his buildings were concerned, but he certainly had a genius for laying out a city, and Regent's Park and the line of Regent-street are, I think, works that even we in these days may recognise as being very excellent indeed (applause). His work was tampered with, in the first instance, when they destroyed the colonnade of the Quadrant, which was an excellent and characteristic feature of his design; but in destroying the Circus a very much greater evil has been committed. Surely something might have been done to avoid the destruction of the excellent arrangement which he first laid down (applause). It is now, I fear, hopelessly lost; how it is to be remedied I, for my part, cannot see; I am afraid it cannot be done. Then the President has rightly spoken of the necessity of space for public buildings, and he has told you what was done in Brussels, of the magnificent position the great building for the law courts recently erected there occupies, and how very finely the whole scheme has been laid out. We have not the space in London that they have in Brussels, and therefore we cannot do things on the same magnificent scale; but we can, and I hope we always shall, try to do what we can to prevent the light and air and the blue sky being shut out of our streets. I really cannot help rejoicing that the scheme for the Admiralty and War Offices was abandoned (applause), because, so long as I live, at any rate, I shall have the delight of seeing the sky over the tops of the buildings on that side of Whitehall, which would have been completely shut out if those buildings had been carried up, and anything more dull than the result would have been I cannot imagine. The President has also referred to the new Courts of Justice as illustrating what he means. Now, I think that that building has been most cruelly treated (hear, hear). Street's design was a very fine one, whatever people may say about it (cheers). But it was absolutely ruined because they would not give him a few more feet of ground, although now they have plenty to spare on the western side, now to be laid out as a garden; but if they had allowed Street the space he desired, it would have made his building a totally different thing, and given plenty of space for corridors. It would have then been perfect, and one of the most magnificent structures of modern times. As it is, it is really cruelly destroyed. There have been some very absurd remarks in the public press of late about it, but we architects know how shamefully Street was cramped with reference to the building. If there had been a proper care for the laying out of public buildings at the time that design was decided upon, probably things would have been different. The next point upon which the President touched was the losses we have sustained during the past year. I cannot forget that when I came here to the opening meeting of last session, I saw sitting there Edmund Woodthorpe, I saw our then President, and I myself sat next to Godwin,—I'Anson, Godwin, and myself, were old friends,—now two of them are gone, and I remain. Woodthorpe, our genial friend, has left us, and I shall always regret the loss we have sustained, also my enthusiastic old friend, Joseph Clarke; but the President was probably not aware that he it was who was the practical founder of that valuable stimulant to young men, the Pugin Studentship. The President has referred to country as well as to town buildings, and I think there are few people who know what an immense deal has been done in England during the past few years in the construction of private residences. Dotted about the country, in almost all parts, these buildings are to be found, so that this Victorian age has been quite as prolific, or even more so, than the time of Queen Elizabeth, in the erection of fine houses and buildings, which will be of interest to those who follow us. And I have no doubt that "the Homes of England" will be as famous in the future as they have been in the past. I agree cordially with the President as to the importance of the architect, when designing buildings in the country, being capable also of designing their surroundings. Any one who has travelled in Yorkshire, and visited the magnificent house of Castle Howard, cannot fail to see that the architect of that building was a consummate artist, as well as an architect in stone and mortar, because nothing more excellent can be seen anywhere than the way in which he has laid out the grand avenues, and all the surroundings. To any one who has the opportunity of building a country-house, there is nothing more delightful than imagining how the thing is to be completed, with all the surroundings and beautiful gardens, and unless men are able to see that from the commencement of the work, I think their work is very likely to be a failure. The President has spoken of the biographies of architects. The biography of George Edmund Street is a book which ought to be in every student's hands. I hope there will be another edition of it, and combined with the letter-press there should be a few facsimiles of the wonderful sketches Street was in the habit of making. I had the great privilege and satisfaction of travelling with Street two months before his death. I was with him and Pearson in Savoy when we went a trip to the Lake de Bourget, and visited a convent. We had an hour to stay there, and Pearson and I strolled about; but Street immediately seized upon a very fine doorway on the south side of the church, and before the steamer departed the whole thing was in his note-book—a complete drawing of the doorway, with every detail that

could be wanted for its execution in the hands of the workmen. A more rapid and wonderful piece of work I have never seen done. The "Life of Street" ought to be in the hands of all who are diligent to study, as showing how that great man arrived at the success he undoubtedly attained (paplause). The President has spoken of another man—Henry Hobson Richardson, and has remarked that in America things are done in a different way to what they are done here. American architects are hampered by the unfortunate circumstances of their country—nothing being ever permanent in the way of administration. Every four years there is a general upset, and architects are changed just as other employés are changed. Therefore some of the buildings in the United States give very strong evidence of the deleterious effects of that operation. When I arrived at Boston I well remember how dumbfounded I was when I saw the wonderful tower of Trinity Church. We build a few towers in England, too, but we never go to such dimensions as are illustrated in that work, and Mr. Richardson has produced the most powerful example of a modern tower that I have ever seen. But what struck me in America was that the country was in a very interesting condition as regards art. There was evidently a giant at work, but he seemed hardly to know how to use his tools. He was gradually arriving at a result which would one day be a grand one indeed, and the death of Mr. Richardson was, to my mind, a national calamity for America. It takes a long time to train or produce an artist like that man, though I hope his pupils may be architects of genius. The President has spoken strongly and well, and in words which I am sure we must all emphatically endorse, on the paramount importance of guarding unsullied the honour of our profession, words not one whit too strong or that will bear in any way to be softened, and which it behoves every one of us carefully to ponder. Mr. Christian concluded by moving a vote of thanks.

Mr. T. J. Flockton (President of the Sheffield Society of Architects and Surveyors): Gentlemen,—I have been honoured, and somewhat surprised, by the request that I would second the proposition of a vote of thanks to our President for his very able address. I have very great pleasure in doing so, although my notions of modesty would not permit my attempting to make a speech, even were I able to, at so short notice on this my first appearance before you. The President has evidently devoted a great deal of time and ability to the address which we have had so much pleasure in listening to (applause). That such efforts require both time and trouble I am in a position to speak personally. Having in a very humble way recently had to compose a Presidential address myself, I have found it not merely required trouble, but was attended with labour, and also with a good deal of anxiety,—anxiety that one might say everything that should be said on the subject under consideration, anxiety that one should say nothing that one would afterwards wish had not been said, and, at the same time, anxiety to so far interest one's audience as to occupy their attention and prevent their going to sleep. Our President has fulfilled all these conditions most ably to-night. He has said everything in a most exhaustive manner on the subjects he has introduced to our notice. I think he has said nothing with which any of us will be at all likely to disagree, and he has certainly kept our interest maintained from the beginning to the end. I have, therefore, the very greatest pleasure in seconding the vote which has been proposed by Mr: Christian, that our hearty thanks should be given to the President for his most able and interesting address (applause).

The resolution was then put and carried by acclamation.

The President: You have heard so many words from me this evening that I shall content myself by thanking you most sincerely for the very kind reception you have given me, and the very close attention with which you have listened to the words I have had to read to you. I was particularly gratified to hear from the lips of Mr. Christian the manner in which he supplemented my remarks about the Law Courts, with which I entirely agree, and the further remarks he made about our late lamented President, Mr. Street. He also remarked that he had visited Boston and America, an advantage which I have not had. And I was particularly gratified to hear what he had to say about Mr. Richardson, and his remarks about there having been a giant at work not knowing exactly how to use his tools. That is a fine description, certainly; and I have no doubt it is true. Gentlemen, I am extremely obliged to you for having listened to me so attentively (applause).

The President then announced that the next meeting would take place on November 19, when there would be a ballot for the election of members, and when business questions would be discussed.

The proceedings then terminated.

"ELIZABETH AND VICTORIA."*

In traversing this beautiful country of England with a view to examine its architectural remains, the two objects that we look for wherever we go are the Gothic church and the Elizabethan manor-house. I am not altogether sure, indeed, that with many of us the Elizabethan manor-house does not attract more attention than the Gothic church. How far this would have pleased or shocked our fathers in the profession it would be useless to inquire. Fashion sways our clients as it sways the hatter's customers. These will accept a wider or a narrower brim even as they are persuaded thereto by the young man behind the counter, and as his choice agrees with what they can recollect seeing in fashionable places. Those will accept a pointed or a round arch according to the dictum of their architect, so long as it is not at variance with what their neighbours are accepting on all sides. But each and all desire the cheapest of its kind, and are highly gratified at obtaining much show for little money.

Twenty or thirty years ago the pointed arch and its accompanying features were the only acceptable wares. Accordingly, to look at ancient work less ancient than the thirteenth century was a grievous waste of time, not to say the mark of a dissolute mind. Now, however, the partakers of our annual excursion, though quite prepared to accord its full archæological value to the thirteenth century, seek their inspiration for the nineteenth from work dating about half-way between the two,—namely, from the times of Elizabeth and James. The reason of this is not far to seek. We are gradually awakening to the fact that forms and features which satisfied the equations that the Middle Ages had to solve, do not satisfy those presented to us five or six centuries later. In ecclesiastical architecture, it is true, those forms and features are still not out of place. But ecclesiastical architecture is demanded by a select few. Domestic architecture is sought for by the million; and in the domestic architecture of Elizabeth and James is to be found much that offers clues and hints towards solving the problems of to-day. Apart from this practical reason for the change of taste, there is what we may call the historical reason. The sixteenth century marks sharply and decisively a complete change in men's habits of thought. With the Cecils and the Hattons, and the innumerable builders of mansions under Elizabeth, we have much in common; their ways are, many of them, our ways, and their thoughts our thoughts. But what have you and I to do with the celestial hierarchy that adorns the west front of Wells Cathedral, or with St. Edmund, king and martyr, whose severed head was miraculously joined to his body after death, and whose corpse thus supernaturally "restored" was the sole and sufficient cause of the erection of the enormous Abbey at Bury St. Edmunds? Or what with the sacred thorn that for centuries was the mainstay and support of the magnificent Abbey of Glastonbury? You and I, at any rate, are architects, and we love to know of these things, and some of us from loving to know of them come to love the things themselves, and even perhaps to feel towards the celestial hierarchy, and St. Edmund king and martyr, and the sacred thorn, some of the reverence which filled the minds of men six centuries ago. But then we are architects, and our sympathies are largely with the past. How is it with the pushing men of business with whom the world is peopled? Like Gallio, they care for none of these things.

But they do care for comfortable homes, for handsome houses, for labour-saving appliances, and for all the conveniences which modern progress affords; and from their architects they expect, first of all, these material things, and they sympathise but little with any desire that their architects may have to work in some particular style which prevailed when the fortress still left its trace upon the dwelling-house, when security was preferred to light and cleanliness, and when the quantity of the meat was of more importance than the quality of the cooking or the convenience in cooking it.

It is not surprising, therefore, that the taste for Gothic houses was short-lived. Their pointed windows, however successful on the outside, were failures on the inside, obstructing the light where it was most wanted, and putting the upholsterer at his wit's end how to fix his blinds and curtains. Their wide-open fires were liable to smoke, were costly to feed, and warmed the chimneys where the family did not sit, in preference to the rooms where they did. The stained and varnished woodwork and the indecorous display of naked construction produced a feeling of chilliness and discomfort. After all, the most blameless life will not bear to have the whole of its motives exposed; the most beautiful bones are better for a covering of flesh. And so the desire for bare Gothic declined, and attention was diverted, with better prospect of success, to the great house-building epoch of Elizabeth.

That period and the one in which we ourselves live are unrivalled for the amount of building which marks them. The building trade at the present time is one of the largest interests in the country. The ever-increasing numbers of our own Association are themselves a proof of the amount of work that is being done in bricks and mortar. The innumerable illustrations which appear week by week in our excellent building journals, faintly suggest the amount and the variety of the work undertaken by the architects of Victoria's time. But we have to go back to Elizabeth's days to find anything like the same amount of general activity, though even then it was but as a placid lake compared to the stormy ocean. There was, however, hardly a squire then who did not either rebuild his house or materially modify it. While most of the nobles and nearly all the high functionaries of the Court erected mansions which to this day are, such as remain to us, models of stately design and magnificent taste.

To name only a few: there was the great Lord Burghley, who built Burghley House and Theobalds; there was Sir Christopher Hatton, who built Holdenby and enlarged Kirby; the Earl of Dorset, Lord High Treasurer, who built Buckhurst; the Earl of Suffolk, another Lord Treasurer, who built Audley End; Lord Robert Cecil, who built Hatfield; Sir Thomas Heneage, Treasurer of the Queen's Chamber, who lived at Copt Hall; Sir Percival Hart, Chief Sewer and Knight Harbinger to Queen Elizabeth; Sir Thos. Lake; and Sir George Coppin, Clerk of the Crown to James I.

Besides these, who were in some way attached to the Court, and probably made the money there which enabled them to erect such noble houses—which were always, in their letters to each other, built solely in order to entertain her Majesty in a suitable manner; besides these there were great noblemen like the Duke of Buckingham, who built Burley-on-the-Hill, and wealthy gentlemen like Sir Francis Willoughby, who built Wollaton, and Sir Walter Covert, who built Slaugham Place, in Sussex. These are only a few of the great building owners of the time, only a small selection from the army of clients who were willing to spend half their fortunes in obtaining houses with all the stately apartments and the conveniences which the change of manners then rendered necessary. These men it was who inaugurated a new era in architecture, whose habits led them to require a new type of dwelling, and whose tastes demanded magnificence and display. They are sharply marked off from their predecessors, who were content to lurk in dark places, if sufficiently strong; and it is because they were men of so much wider ideas that we find it worth while to study their houses closely to-day.

But though Elizabeth's days are more suitable sources of inspiration to us than the earlier times of unalloyed Gothic, far be it from me to advocate blind copyism for the architect, or to recommend a client to build himself a house strictly after the fashion of those built—as Evelyn phrased it of Kirby in the middle of the seventeenth century—*à la moderne*. Not at all. Mere copyism is the resource of the feeble; but, on the other hand, there is every reason why we should profit by the ideas, the successes, and more especially the failures of those who have gone before us. And for that reason it seems to me that an examination of the work of Elizabeth's time in the light of these days of Victoria will not be out of place.

* A paper by Mr. J. A. Gotch, F.R.I.B.A., read before the Architectural Association on the 2nd inst.

Now, to begin with, of all the thirteen houses which have just been named, how many have come down to us? Only Burghley and Kirby, Audley End, and Hatfield and Wollaton. Theobalds is gone completely, and so are the houses of Sir Thomas Heneage, Sir Percival Hart, Sir Thomas Lake, and Sir George Coppin. Of Holdenby little but the memory remains. Slaugham Place is reduced to a few columns and arches, and the grass-grown foundations of its extensive walls. Burley-on-the-Hill has been replaced by a great Palladian structure. So far as we know, they have not been destroyed by fire, nor by any hostile agency, but they have gone to decay because no one was found to preserve them. And what of those which have survived? Kirby has been deserted for more comfortable houses; Audley End has been shorn of two-thirds of its extent; Burghley and Hatfield and Wollaton retain little of their original arrangement beyond the shell. The dwellings which suited our forefathers of Elizabeth's time do not suit us in Victoria's.

It is the same wherever we go. If we find an Elizabethan house occupied, either some radical alteration has been made, to the detriment of the architectural harmony, or else the inhabitants put up with manifold inconveniences rather than disturb the ancient order of things, which has served many generations of their predecessors. One of the most obvious drawbacks of the Elizabethan plan is the number of thoroughfare rooms. Burghley House has been helped by building a corridor round the courtyard. At Canons Ashby, for want of some such addition, you have, from a considerable number of bedrooms, the choice of two ways to get to the breakfast-room. One is through the drawing-room, and down the main staircase; the other is down a subsidiary staircase and across the open courtyard. At Kirby the same difficulty was present, and before that house can be inhabited again that difficulty must be surmounted. A corridor here would be ruin to the beauty of the courtyard; while to roof the courtyard in, and to exclude the sunshine from playing amid the badges of the Staffords and the long lines of swelling fruit, and to prevent the shadows from creeping across the grey and golden walls, marking from day to day "Time's thievish progress to eternity," this might make Kirby habitable, but it would be a Kirby with half its poetry gone.

The fact is these large houses were built for entertaining guests rather than as homes for their owners. The long rows of small rooms arranged round a courtyard were separate groups of apartments, self-contained, and designed to accommodate visitors and their servants, in the same way that each undergraduate has his separate establishment at college. One of these groups is designed to include a bedroom, a reception-room, a servant's room, and a room for "wood, coal, and privy." There were certain larger rooms where the guests assembled together, such as the hall or the gallery, and to reach these the courtyard probably had to be traversed, just as to-day it has to be traversed by undergraduates for the sacred ceremony of dining. But in Elizabeth's days people seem to have cared less for the weather than we do; though, as rain would wet as much then as it does now, the gay gallants must have grudged exposing their finery to a sharp shower; and if they did get damp there would have been amid the brilliant assembly much the same kind of stuffy odour as pervades in our own times an omnibus on a wet day.

In the present day our habits are different. We do not entertain on the same sumptuous scale; a separate suite of rooms for every guest is not expected; people like to get to their rooms under cover, and would as soon thank you to put them up at a neighbouring inn, as to ask them to walk across a wet court in evening dress. We find in these days that it tends to the easier and better work of the house to get all the bedrooms upstairs, and the reception-rooms on the ground floor. There would, therefore, be no room for Lord Burghley's commendation of Holdenby, in that it had so fine an ascent from the hall to the great chamber. One of the governing features of an Elizabethan house we entirely omit from our designs—the long gallery. Almost all the old ceremonial is gone. Along with the gorgeous dresses went the stately manners, and the necessity for the stage whereon to display stately manners and gorgeous dresses. We look for large and lofty rooms now, because in themselves they are handsome and imposing, and not because they are picturesque backgrounds to our noble selves. We seek for comfort, not pageantry. And for that reason we no longer hanker after brilliant processions from the hall to the great chamber, winding up the broad staircase, where rows of quaint animals in all the attenuation and lissomeness of thorough heraldic "condition" gaze proudly over the heads of the guests, unmindful of all but the sacred family arms which they support. Not at all: we care for nothing of this; we prefer going up in a lift.

But the smaller houses, such as were designed for Sir George Coppin, or Sir Percival Hart, or Sir Thomas Lake, in London, were much more compact, and were tolerably convenient. But it is obvious even in them that expense was but little studied. If there was less money to spend, the house was made smaller, but no pains seem to have been taken to contrive economical plans. All those ancient buildings must have cubed out at a terrible figure. Everybody concerned seems to have agreed that one of the first things to be secured was a handsome building. The idea of getting the house comfortable inside, and leaving the outside to take care of itself, with strict orders to spend no money on show, which is a not infrequent instruction to us, does not seem to have occurred to clients in those days. They were quite content to let the architect have his way, and he went on the principle of making his clients adapt their wants to his architecture, rather than that of adapting his architecture to their wants. There is no doubt that his method was the easiest, and produced the most stately buildings, but our way is the best, and it is for us to solve the problem how to combine attention to all modern requirements with a handling of materials that shall produce fine architecture. Our task is by far the more difficult, and the time given to do it in is generally of the shortest; so let not these things be forgotten when critics abuse the architecture of the nineteenth century. The method of the Elizabethan architect was simple enough. He ascertained approximately the accommodation required by his client; he found that he wanted a certain type of house, and away he went. The plan, perhaps, worked out so that there was a room or two more than the number asked for. A very simple matter; he just labelled them "waste," and the client had to pay for their erection; and the client's grandchildren, probably, paid for their pulling down.

Symmetry was another great solvent of those days: it simplified matters wonderfully, since it was accepted by all alike as indispensable. There was no need to adjust the sizes of the rooms to their various purposes, or to study the best positions for the windows and fireplaces. A start was made probably with the hall and the adjacent rooms; the position of the kitchen in relation to these was usually carefully considered, provision was made for the longest possible gallery, and the rest was left to take care of itself. If it did not happen to work out quite happily for the best arrangement of some of the rooms, if the doors and windows quarrelled with the fireplace, or if the larder found itself possessed of a great bay window, nobody minded, for symmetry demanded it, and this excuse satisfied everybody. In the present day it is otherwise. Not only do we have to be very careful how we plan our buildings,—so that not only our client and his wife are satisfied, but also his ox and his ass, and everything that is his,—but as every foot of material is reckoned up beforehand, we have to be particular not to put in too many of them. Our predecessors had a freer hand; the masses of masonry in some of their chimneys would almost suffice to concrete the whole of the foundations; and yet amid those masses are generally to be found very delightful cupboards, the absence of which is the despair of the modern housewife. The wasteful planning of those times, at all events, carried some compensation with it.

Then, again, the great question of sanitation had not yet arisen. To-day we are slaves of the soil-pipe. That unsightly talisman has to be hidden as far as may be; and in the effort to hide it, we make the whole house revolve round the small apartment which it safeguards. Not so the architect of Elizabeth's days. He was lavish in his supply of such apartments. Generally each suite of rooms had one. If it could conveniently be placed next to an outer wall, it was. If not, any other place was suitable. Sometimes it led directly out of the winter parlour, sometimes it was in a passage, sometimes in the middle of the house. Sometimes, but not often, it projected from the side in a manner almost modern, but, as a rule, the situations chosen for it are truly astonishing; and it is a matter of wonder whether our ancestors had any noses to offend, or any blood to poison.

It has already been pointed out that particular care was bestowed upon the position of the kitchen; indeed, this is done to the exclusion of the consideration whether the servants overlooked the precincts devoted more especially to the family. This is a factor which played no part in designing a house in Elizabeth's days. A room was a room, no matter what its destination. Its windows ranged with the others, and were as good; so that, to look at the house from the outside, it appeared equally imposing from all points of view. This does not suit modern views at all. They demand that the servants' department shall be quite separate from the family's; and, as money must be saved somewhere, it better be in the servants' offices, which need not be nearly so expensively finished outside as the rest of the house. At once, therefore, we have a back to the house; a large part of the building which has to be subordinated to the rest, which must be differently treated. This necessity alone is a factor which widely divides our ways from those of Elizabeth's time.

So, too, in the treatment of the elevation. In the old days they thought nothing of putting in numberless sham windows. The most picturesque side of Cobham Hall is riddled with sham windows, put there for effect merely, glazed to resemble their *bonâ-fide* neighbours, but built up at the back from the time of their erection. At Kirby, too, on one side of the entrance, are the noble windows of the lofty hall, 20 ft. high or more; on the other are a like number of noble windows, 20 ft. high or more, but a close inspection shows that a floor goes right across the middle of them. In so far as their noble height is concerned they are shams. We cannot do that now, nor anything like it. Nor need we be anxious to make our chimneys look like coupled columns, nor to set great heraldic creatures climbing about the stonework, nor to do many other of the things which our ancestors did, but which, being done, we do not wish to see undone. These things, from which our sober judgement revolts, we can avoid, and yet find much to help us in the manner in which stone and brick and wood were wrought in those days.

But who was responsible for these buildings? That is a question not yet satisfactorily settled. That there was anything like the autocratic and all-accomplished architect of our times I do not believe, who to-day designs his client a sideboard, to-morrow arranges his drains, and next week commences a stained-glass window to his memory. Things were much simpler in those days, and the various branches of the business of housebuilding were under the special care of separate men who may—indeed must—have been amenable to a central authority, but who certainly did not look to him for every morsel of design and instruction.

In the building of Cobham Hall, for instance, we find that one R. Williams, who was probably the clerk of the works, writes to Lord Cobham as follows:—"We have bargained with Giles de Whitt for making two chimney-pieces for the two chambers next to your new chapel. He demands £65 for both. I will not give above £50, and he will accept it in the end rather than fail." And later we find the same correspondent urging his lordship to "resolve what and how much you are pleased to have done by Giles de Whitt, either upon some new chimney-piece, or upon my lord your father's tomb, that the poor man have some work to get wherewithal to maintain and sustain himself." No doubt Giles de Whitt designed these chimneypieces as well as made them; and, to judge from the different character of design in stone and plaster and wood, no doubt the masons designed their own carving, and the plasterers their own ceilings, and the joiners their own panelling; for the hand was not yet divorced from the mind. To read the letters relating to the building of Hatfield gives one the same impression. The only agents who appear are the clerk of the works and the foremen, or the surveyors who are sent down to ascertain in what state the buildings are, and why the cost so much exceeds the estimate. There is no architect mentioned, nor any one to whom all matters are referred, as they are in our days. The correspondence is carried on between the clerk of the works and the building owner, from whom instructions issue direct. Sometimes, however, a surveyor is employed to superintend, as was the case at Holdenby, for on one occa-

sion when Lord Burghley was going thither and Sir Christopher Hatton was unable to receive him in person, the latter wrote a letter of welcome to his "singular good Lord, the Lord High Treasurer of England, at Holdenby," in which he begged his guest to give "his opinion to the Surveyor of such lacks and faults as should appear to him in this rude building," which he averred was built "in direct observation" of Lord Burghley's house at Theobalds, and which he hoped might become really like it by means of Lord Burghley's corrections. How would an eminent architect in the present day like to have a high and mighty friend of his client's come down for the purpose of dictating alterations and corrections in a design practically completed? Perhaps, however, the request was merely a compliment on the part of Sir Christopher; at any rate Lord Burghley was charmed with Holdenby, praised its façade, the ascent from the hall to the great chamber, and the largeness and lightsomeness of the rooms. As for its being an imitation of Theobalds, truly the latter place he liked as his own, but it was only a foil to Holdenby. There was a certain amount of truth in this, for Holdenby was considerably larger, and was an improvement in many respects upon the older building. But they were both fine palaces. Holdenby, indeed, was a vast and stately edifice, suitable to an age which delighted in magnificent displays; and Sir Thomas Heneage declared it would hold the pre-eminence of all the modern houses he had known or heard of in England.

Most of the large houses of the time were thus superintended by a surveyor,—or architect, as we should now call him,—of whom the best known is John Thorpe. But his functions were far different from those that we have to fulfil. The hundreds of drawings that now go to the erection of any considerable building were wholly unknown. Plans and elevations were supplied, but, so far as can be gathered, the details were left to be arranged on the spot. A very much simpler method than ours, but one not compatible with the system of contracting which demands that everything must be foreseen and tabulated, from a staircase to a chamfer stop, and that every variation from the pencil-and-paper arrangement shall be duly noted and valued. Gentlemen, the existence of the quantity-surveyor is a marvellous tribute to the ingenuity of the human mind; and he is also one of the most noticeable barriers that divide the times of Elizabeth from those of Victoria.

But, gentlemen, it is not for us to deplore the fact that times have changed. They always have and they always will. It is for us to recognise that they have changed, and that we are expected to solve our own problems in our own way, instead of vainly seeking problems that may be solved by the old methods. The difficulties of Elizabeth's days are not exactly those of ours. The way in which the men of Elizabeth's days overcame their difficulties cannot be exactly our way. But we can recognise how well those difficulties were met, and if we are content to study the two things together, the questions and the answers, and to refrain from playing at cross-questions and crooked answers, we shall find great help in answering our own questions in our turn.

We have dwelt somewhat on the shortcomings of the architecture of Elizabeth's days to-night, but it must not, therefore, be supposed that we are blind to its excellences. The plans may be crude, but they are simple and stately in disposition, and the wants they had to meet were also crude. The elevations are to us always effective, partly from association but partly also from the quality of the means used. The mullioned windows give scale to the mass, the bay windows afford a simple method of avoiding monotony, the long lines of string-courses and the pierced parapets impart breadth to the design, while the gables and the tall chimneys produce a picturesque sky-line in a natural and easy manner. There is, undoubtedly, much in the detail of the time that is ill-considered and coarse, but we live in the light of the Victorian age, with all knowledge accessible and with better means for correcting our judgments and improving our tastes than were ever yet offered to mankind; and we may, if we will, find much in the architecture of Elizabeth which, purged of its coarseness and refined in the crucible of our minds, may go far to ennoble the architecture of Victoria.

[Of the discussion which followed, a report is in type, but we are obliged by want of space to hold it over until next week.]

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

At the opening meeting of this Society for the present session, held on the 30th ult., Mr. T. J. Flockton, the President, delivered an address, in the course of which he remarked that the full attendance of members at the opening of the second session of the Society showed no falling off in zeal and energy, and augured well for its future. The first session had been a success; the sound policy "of walking before running" had answered in this, as in other undertakings, and good work had been done towards the objects specified in their rules,—professional advancement and the promotion of professional culture. Valuable papers by Mr. J. W. Connon, of Leeds, on "The Legal Registration of Architects," and by Mr. J. Murgatroyd, of Manchester, on "Association and Federation," had been read and carefully discussed, and the action taken by the Society *re* the Bill introduced in Parliament for the legal registration of Architects had a direct and important bearing on it. There had been a difference of opinion amongst them on the merits and details of the Bill—and the mode of its promotion—but it was unanimously resolved, after final consideration, that legal registration of the profession was desirable. The acceptance of the invitation of the Royal Institute of British Architects for the alliance of the Society with the Institute was matter for congratulation, showing the desire of the Institute to establish a broader basis for a cordial, intimate, and practicable union with provincial societies than had hitherto existed. In his own case the modified form of declaration had removed all difficulty, and he had at once applied for, and had had conferred, the honour of election as a Fellow. The courteous action of the Improvement Committee of the Town Council of Sheffield in affording the Society an opportunity of carefully discussing the proposed new by-laws for new streets and buildings in the Borough of Sheffield,—and the manner in which their suggestions, given after much attention had been devoted to the matter, had been received—and especially the request that the Society should communicate with the Local Government Board, were proofs that the Society was making its influence felt. He had been asked to accompany the chairman of the Sheffield Highway Committee with the town clerk, and their member, Mr. W. C. Fenton, to the office of the Local Government Board in London to further discuss the by-laws. Finally, the draft by-laws had been referred back to the committee for further revision—and this had since been done — the alterations referring especially to open spaces to be left in front and rear of new property in central town sites. In the advancement of professional education, especially amongst the junior members, valuable papers had been contributed by Mr. C. Hadfield on the "Position and Attainments of the English Architect," by Professor T. Roger Smith on "Architectural Education," and by Mr. J. D. Sedding on "English Architecture." Looking to the coming session, papers on technical subjects would be read,—in November, "On a Proposed Improvement in Theatre-planning," by Mr. E. J. Tarver; in December, by Mr. H. W. Brewer, on "Some of the Smaller Municipal Buildings of Germany"; in January, by Mr. J. M. Inery, on "Estimating"; in March, by Mr. W. Emden, "Theatres"; and probably by Mr. H. Stannus and others. On the whole, the prospects of their Scciety were cheering, and if the members all pulled together and did not allow interest and exertion to relax, there was no doubt of its capacity for doing useful work, and of the prospect of its becoming a permanent and very beneficial institution; and he was sure he should not appeal to them in vain to keep up interest in the work they had so well begun. He then proceeded to review the state of architectural practice in Sheffield half a century ago—about the time of his entering the profession. In those days, work had to be carried on with few of the aids now available. The Royal Institute of British Architects had held its first meeting the previous year. There were no professional journals with their valuable illustrations and information; no photographs; lithography was in its infancy; facilities for study were limited, and travelling far in search of existing buildings difficult and costly. Nowadays all this was changed. But young men must remember that the men who preceded them were determined to acquire knowledge in spite of every difficulty, and if they wished to succeed nowadays, they must avail themselves of every means of acquiring and storing information; and thus make themselves competent architects, ready to seize on their opportunity as it occurred. Their Honorary Secretary and himself had got together a few drawings of architectural work in Sheffield from about the year 1831 to 1847, which hung on the walls. They included drawings by his father, the late W. Flockton, the late M. E. Hadfield, and the late J. G. Weightman, and also some of his own work. Speaking of the changes in architectural fashion, he observed that the so-called fashionable Queen Anne style which had sprung up of late years, however beautiful and picturesque it might be when properly treated, was in indifferent hands likely to degenerate into trumpery and common-place work. On the motion of the Vice-President, Mr. F. Fowler, a hearty vote of thanks was awarded the President for his address.

EDINBURGH ARCHITECTURAL ASSOCIATION.

At the first meeting of Session 1888–89 of this Association, held on the 1st inst., the President (Professor G. Baldwin-Brown) delivered the opening address, taking as his subject "Some Aspects of the Work of an Architectural Association." After referring to the constitution of the Association, he asked what it could do for the benefit of the various classes of members composing it? The Architectural Hall should, he said, be made, first, a pledge of the solidarity of the architectural profession; secondly, a place of instruction, and still better of stimulus, for the younger members; thirdly, a centre of artistic influence that might affect the public at large. The architect, often to his sorrow, had to deal, not only with artistic matters, but with complicated matters of business; he had to avoid the danger of sinking the artist in the man of affairs. The Muses, if the nineteenth century had not driven them away, should be appointed doorkeepers of the Architectural Hall, and should suffer no business cares, no sense of professional rivalry, to follow those who entered to share in the work of the Association. On the important questions of more formal union among Scottish architects, on architectural federation, and the like, it became him, as a layman, to speak with reserve, but it was not satisfactory that there should be no body constituted for Scotland in general to represent architecture in questions, such as those of professional practice, which might from time to time arise. He desired to speak with all loyalty of the Institute in London,—an Institute, it must be remembered, of British architects,—and a good solution might be found through some process of affiliation. In any case, they should strive for more solidarity among the members of the profession in Scotland. In the country generally there seemed too many local jealousies, too little united effort. What was the use of a lively national sentiment if it did not result in hearty common action for the general good? The Association this year was doing something towards this end by interchange of papers with other Scottish societies, meetings in common, and the like. With regard to the educational work of the Association, there were the work-classes, which had been carried on since 1883. It was proposed now to endeavour to systematise the classes so as to make them a fit preparation for the Examination of the Royal Institute of British Architects. The great difficulty was the want of any endowment. There was a good work being done that might be greatly extended if a little help was afforded. Edinburgh was famous as an educational centre, but it would be a great advantage if some benevolent despot could lay hands on all the educational apparatus of the city, and redistribute the endowments and the work, so as to avoid the overlapping and rivalry which were now so prevalent. Then, again, more united effort, less jealousy and narrowness, were needed. But the younger members of the Association might usefully start some educational work of their own. Why should not a club or society for design and decoration be formed? It would need a name and a sort of patron saint, as St. Luke was patron saint of the artistic guilds of the Middle Ages. What name could be better than that of Robert Adam, who was as great in ornamental design as in monumental architecture? After sketching the possible work of such a society, the President concluded by reminding the younger

members that though they were practical students and not *dilettanti*, they must remember that the *dilettante* had something to teach them. He dealt with art because he took a pleasure in so doing, and all artistic work should be done in the spirit of enjoyment.

MANCHESTER ARCHITECTURAL ASSOCIATION.

THE opening meeting of the fourteenth session of this Association was held on Tuesday, the 6th inst., and was largely attended. One new member was elected, and fourteen were nominated.

The President, Mr. A. H. Davies Colley, A.R.I.B.A., in his address congratulated the members on the work of the past year, and said that the Association was in a better position, he believed, than they had ever attained to, and was able to exercise a greater influence in every way. Their thanks were due to the late Mr. I'Anson and to the Free Libraries Committee for the handsome addition of architectural books to the reference library, and he hoped that members would show their appreciation of them. The formation of classes for quantity surveying and figure drawing, and the revival of the sketch-book were referred to as most desirable and with their increased number more easily to be carried on. The President directed special attention to the work of the Competitions Committee of the Royal Institute of British Architects and to the meagre response it had met with. In July last out of 118 practising architects only 47 had signed the memorial. After some remarks upon federation and the new connexion of the Association with the Royal Institute of British Architects, he recommended members to qualify as Associates, and those already Associates or Fellows to use the titles on all reasonable occasions. In conclusion, he suggested that an evening might be devoted to the discussion of the artistic improvement and control of the city, which had been debated at a recent meeting elsewhere.

A vote of thanks to the President was proposed by Mr. L. Booth, F.R.I.B A., seconded by Mr. Hodgson, and supported by Messrs. Mee, Chadwick, and F. B. Smith.

THE CULTS AND MONUMENTS OF ANCIENT ATHENS.

THIS is the title given by Miss Harrison to a course of five lectures, begun on November 2, in the lecture-theatre of the South Kensington Museum. The first lecture was exclusively concerned with the discoveries made (1) round the Erechtheion; (2) south of the Parthenon. The former, Miss Harrison thinks, go to prove that the goddess Athene may claim a much greater portion of her own hill from the earliest times than has hitherto been assigned to her. The foundations of a great pre-historic palace, similar to that of Tiryns, in all probability the *Ἐρεχθῆος πυκινὸς δόμος* (Hom. Odyss. vii., 81), have been laid bare, and close by, in part passing right under the Caryatic porch, and nearly parallel to the Parthenon, the foundations of a temple which, according to Dr. Dörpfeld, was the Temple of Athene herself, existing before the Persian war. Dismissing the vexed question of whether or no it was rebuilt after the Persian war, this temple is, from the point of view of the early cults, of supreme importance. It brings into proper relation Athene and Erechtheus. She is the Polias, the presiding goddess of the citadel, with her temple built close to the ancient palace of the kings; he is the kingly fosterling, who probably had a small subordinate shrine in the neighbourhood of the great temple. The series of female statues found in 1885 by the north portico of the Erechtheion are, from the absence of characterising attributes, considered by Miss Harrison to be, not goddesses, but priestesses of Athene. This view is supported by a slab of similar character and technique to that of the statues. It represents the goddess, distinctly characterised by her helmet, with attendant worshippers, who have nothing distinctive. The number of these statues points to the all-important fact that this portion of the Akropolis was regarded as a precinct sacred to Athene. Close by, moreover, several bronze statuettes of Athene, four of the "Promachos" type, have been found. These bronzes are specially interesting, for three reasons:—(1) The Athene "Parthenos" was directly derived from the "Promachos" type; (2) they are of the type with which the Athenians associated the Palladium of Troy; (3) they, no doubt, point to an early open-air worship of Athena "Promachos" on the Akropolis, and to an earlier statue of the goddess before the great bronze statue of Pheidias. An amphora (B.F.), in the Berlin Museum, shows such an open-air worship; the goddess in her warlike attitude stands behind her altar, towards which advance in procession a priestess, an aged man, and two youths leading a heifer. This vase helps to give a lively picture of the early supremacy of Athene and her worship. Turning to the excavations S.E. of the Parthenon, one of the most important discoveries noticed and illustrated was that of an archaic head in poros stone, probably representing Herakles. The description of the brilliant colouring,—hair and beard bright blue, eyes emerald green,—did not fail to raise a smile among the audience. An illustration of unique interest showed part of the foundations of the older Parthenon began by Kimon, over which Perikles built his greater Parthenon. These foundations were laid bare by the excavators, but the ground has now been filled up again, and they are no longer visible. They were described in the letter from Athens in our issue of August 25 of this year. A last illustration was one of the latest discoveries; a relief of Athene looking down in earnest thought at a stele, the latter symbolic perhaps of a treaty between Athens and some other city. The theory that the goddess has consciously been given an expression of sadness was strongly repudiated by Miss Harrison as incompatible with the spirit of the archaic period to which the stele belongs.

THE INTERNATIONAL TRADE CONGRESS.

A FRENCH correspondent of the *Times*, in its issue of the 6th, gives the following information as to the views and intentions of some of the French trade bodies in regard to the policy which the French delegates should uphold at the International Trade Congress:—

"The Parisian delegates have prepared collective reports and held a very interesting meeting, at which they decided the line of policy to pursue with respect to the four principal questions to be submitted to the Congress. Each trade sent in its special suggestions and report, and one and all agreed that it was necessary to reconstitute an international working men's association. The coopers thought that this should be done without official link or central federal committee, but merely by correspondence and mutual understanding. The blacksmiths insisted that it was the political element which caused the old International to fall to pieces. The Paris compositors wanted foreign workmen to be admitted into trade unions, and remarked that just as picketing is sometimes rendered illegal, so it ought to be illegal for employers to boycott trade unionists. The Commercial Employés' Society are in favour of political and economical labour parties being created in each country and federated internationally; while the representative of the book trades objected to the introduction of politics in trade organisations. In reply, the Cabinet-makers maintained that it was not politics but personal vanity and selfishness that caused divisions. The Coopers' delegate stated that his trade had tried every method. They had organised a guild, then a co-operative society, a benefit society, and finally a trade union. None of these succeeded. There was no vitality in them. But when they established a trade union with a political economical programme, the workmen rallied round it, and their society is now a success. The Boilermakers' delegate pointed out that the English trade unions excluded politics, and, therefore, though strong and prosperous, they had only created an aristocracy of workmen, and outside their ranks there were 6,000,000 toilers helpless and unprotected. Trade unions had not merely to watch the interests of their members, but to compel the Government to pass laws benefiting the working classes as a whole. Consequently the Parisian delegation decided to demand the formation of an independent labour party in each country, having a political and economical programme, and being united internationally by a federal link.

The sculptors* alone did not approve of State interference to fix the day's work to eight hours. The French delegates, apart from advocating an international eight hours' Bill, will argue in favour of laws suppressing the sweating system, of fixing a minimum rate of wages, of establishing public services, such as municipal bakeries and factories for the manufacture of the necessities of life. Further, they will insist that trade unions should be so organised as to take over directly from the State or the municipality the work that has to be done for the community, and this without the intervention of any individual capitalist, contractor, sweater, or middleman."

* So in the *Times* correspondent's communication. Probably architectural carvers are meant.—ED.

OBITUARY.

Mr. John Griffith.—The death lately took place, at the advanced age of ninety-two years (less a few weeks), of Mr. John Griffith, late of 6, Hanover-terrace, Regent's Park, and formerly of 16, Finsbury-place South. He was elected a Fellow of the Institute of British Architects in 1842. The *City Press* states that for nearly half-a-century he practised his profession. As Chairman of the Kensal Green Cemetery Company, he was responsible for the laying-out of the grounds. He was also Surveyor to Coleman-street Ward for many years, and built several houses now standing in Coleman-street. Probate was taken on the 26th ult., his property amounting to over 170,000*l.*

Mr. John Cowell.—Mr. John Cowell, A.R.I.B.A., Canterbury, died a few days since, of typhoid fever. A local paper says that Mr. Cowell was a pupil of the former City Surveyor of Canterbury, the late Mr. J. G. Hall. He subsequently commenced practice on his own account, and latterly has been in partnership with Mr. Bromley, of Folkestone. Mr. Cowell, who was but thirty-two years of age, was employed in connexion with the erection of the premises in St. George's-street, Canterbury, occupied by the East Kent and Canterbury Conservative Club, and also had charge of the restoration of Stodmarsh Church, now only just completed.

NEW CHURCH AT BARMOUTH.

SIR,—Unsatisfactory and absurd invitations to compete are not unfrequently issued, but the committee which proposes to itself to obtain drawings for a church at Barmouth (the invitation is in your issue of the 27th ult.) has almost outdone previous efforts.

"It is proposed to build a church," "to seat 800 to 1,000 people." There is all the information given,—premiums, referees, the hopes the selected man might have to be employed as architect,—these things are treated with magnificent contempt.

I wish the committee joy out of their effort, and much satisfaction will they get out of the sort of architect who would condescend to enter into such a competition!

ONE WHO DOES NOT COMPETE.

SOCIETY JOURNALS ON ARCHITECTURE.

SIR,—In *Vanity Fair* this week there is a remarkable puff of a firm of architects, whose "treatment of Mr. Leopold de Rothschild's hunting-box near Leighton Buzzard" is elaborately commended.

Unfortunately, the writer of this paragraph-advertisement has lavished his praise on the wrong people.

The house mentioned was designed by my late uncle, Mr. George Devey, as were also the additions which have been erected since his death.

When the Society papers forsake scandal and give information about architecture, it seems that they do not also abandon their usual love of fictitious facts.

H. DEVEY BROWNE.

WARMING VILLAGE CHURCHES.

SIR,—Our village church is a small one. It is at present warmed by means of a Gurney stove, which is not sufficient to protect the new organ from damp. We wish to adopt a system of hot-water heating, but have no convenient space inside the church to place the furnace and boiler; besides which we wish to avoid the eyesore of a smoking chimney. Can any of your correspondents help us by suggesting the simplest and best way of constructing the furnace? Has there been any efficient and economical application of mineral as a substitution for a coal or coke furnace?

Nov. 6, 1888. AN OLD SUBSCRIBER

Birmingham Architectural Association

The opening *conversazione* of this Association for the present session, 1888-89, will be held on Wednesday next, the 14th inst.

The Student's Column.

ARTIFICIAL STONES.—XIX.

Stones made with the Assistance of Alkaline Silicates (continued).

An American artificial stone, which, when well burned, gives good results, is formed of a mixture of from 2 to 10 per cent. of litharge, mixed with ground quartz sand. The harder the stones are required to be the greater the proportion of litharge employed. The mixture moistened with water glass, thoroughly incorporated, pressed firmly into moulds, dried, and burnt.

Another American patent stone is designed to resist the greatest degree of frost, and to be quite impervious to water. The composition is intricate, and the resulting compound must be comparatively costly, containing, as it does, litharge, oxide of iron, soapstone, carbonate of magnesia, and sulphate of lime mixed with water, then kneaded up with a solution of asphalt, and subsequently with a solution of silicate of soda and alum. These ingredients being well mixed, dry sand and cement are added in the proportion of eight parts of the former to 1 of the latter. The articles being well pressed in moulds, should be kept moistened with water for at least six days. Very good stone can be produced by the admixture of a solution of alkaline silicate to Portland cement.

Battersby & Brown's "Improved Silicious Compound" is one of sand, oxides of manganese and iron, kaolin, gypsum, sulphur, silicate of soda, resin, and a little petroleum; these ingredients are heated together, and cast into moulds.

E. Robbins prepared artificial stone by mixing sand, gravel, stone dust, glass, clay, marl, lime, or any similar substance, with soluble silicates; to the mixture is added a solution of chloride of calcium freshly prepared, by adding dilute hydrochloric acid to chalk.

An effective combination is one of sand 1 to 5 parts; slaked lime, 1 part; cement, 1 part, with enough water to form a creamy mass. When moulded and dried, the stone is immersed in a solution of water-glass for several days, and again dried.

O'Friel's stone, manufactured in New York, and stated to be unaffected by great cold, is composed of a mixture of 55 parts of lime, 8 parts of alumina, 24 parts of fine sand or silica, 3 parts of caustic potash or soda, and 10 parts of soluble silicate; the mass being well mixed, can be used in this form as cement, or mixed with its own weight of clean sand to form good artificial stone.

Ordway, another American patentee, made artificial stone by moulding and heating for two hours at a red heat a mixture of 30 parts of quartz and 1 part of litharge made into a dough, with 10 parts of water-glass, which if desired, may be suitably coloured.

Roettger's artificial marble (1874, pat. 3,008) is produced by using a white cement obtained by calcining Iceland and Calc spar. The cement is moulded with water and put to soak in a bath containing silicates of soda or potash and soluble silica; after some time it is withdrawn, dried, burnt again, reduced to the necessary fineness, and is then mixed with water to form the imitative marble.

Meyer four years later utilised natural fluorides, such as fluor spar, cryolite, &c.; the minerals were powdered, mixed with soluble glass, formed into stones, &c., of desired form and allowed to dry.

A patent which obtained provisional protection only in 1878, proposed to form artificial stone from chalk by mixing it with hydraulic lime, flints, shingle, and silicate of soda.

In 1881 R. H. Stone patented a stone, containing fine sand, silicious clay, lime, and water; the mixture was rammed into moulds and allowed to set for from three to ten days, and then covered with a layer of alkaline silicate, to prevent what the inventor terms, with evident ignorance of the meaning of the word, "carbonisation," which is doubtless intended to refer to the absorption of carbonic acid gas by the lime, and not to the miraculous conversion of the stone into carbon, as the employment of such a word would seem to indicate.

Ponton's "Petrammite," brought out in 1885 (pat. 12,383), is formed by coating sand, gravel, granite, felspar, slags, or other hard substances, with thin milk of lime, with or without soluble silica; the stone is then immersed in hot water containing a little silicate of soda, and then stored in lime-water tanks for a long period, and finally dried.

Brandstätter, a Viennese manufacturer, recently patented a stone composed of finely-ground quartz mixed with magnesia, or, for very hard stones, with litharge; chalk, marble, and limestone may also in some cases be employed. The powder is mixed with concentrated solution of water-glass, poured into moulds, submitted to a high pressure, dried, burnt in kilns, and carefully cooled.

An ingenious method for converting the soil, &c., surrounding piles and foundations in submarine and similar construction was patented in 1875 by Cooke and Thompson, who employed hollow piles perforated with holes, through which chemicals, such as silicate of soda and chloride of calcium, could be injected alternately into the adjacent soil, so serving to bind it firmly into a species of concrete.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

15,148, Bolts for Securing Shop-window Shutters, &c. J. Cardwell and J. Chandler.

As applied to shutter-bars, the bolt which is the subject of this patent is so constructed that it can be pushed through the shutter-bar and shutter into a suitable box or recess secured in the back of the shutter, and in which is a sliding spring-catch. This spring-catch is raised by the tapered end of the bolt, and springs back again into an annular groove, and so secures the bolt in position. To withdraw the bolt it is necessary to raise the spring-catch, and this can only be done from the inside of the shop.

15,476, Ventilating. E. Lofts.

The tubes are, according to the inventor's system, heated by hot water or steam contained in an outer casing, and in this way cold draughts are prevented.

15,821, Heating Machine-rooms, &c. F. and A. Craven and others.

According to this invention, heat from boiler furnaces is utilised by the use of an injector of special form, a jet of steam forcing the air through heated pipes. After completing its work, the heated air is again drawn in, and again passed through the injector and utilised, gaining a greater degree of heat.

16,619, Improved Lift or Elevator. S. P. Wilding.

This lift is described as totally unlike the ordinary form of elevator, and is intended for use in staircases, &c. The carriage is composed of a species of platform, which, when not in use, is doubled up against the wall or banister of the staircase. This platform and support are mounted as a little carriage, running on a guide or rail which follows the path of the staircase. Movement is communicated to the carriage by a cable running on the rail or guide, and governed by a very sinple hydraulic motor; or electricity is used for the motive power.

17,018, Heat Radiators. J. Boyd, jun.

According to this invention, hollow cast-iron columns, fluted or ornamented as desired, are made to join together and act as radiators of heat furnished by steam-pipes, or such-like means. The columns are applied as legs to furniture or balusters, or for mantels or chimney-pieces, or for conservatory pillars and stands, &c.

2,199, Fanlights, &c. F. J. Gibbons.

To obviate the rattling of fanlight-frames, and to prevent them from being lifted out of their sockets by a sudden gust of wind, angular protective pieces are, by this invention, fitted to the joints, which, encircling the pivot, prevent the frame from being lifted, and causes a smooth and easy action. A second specification (2,886), by the same patentee, describes a method of fixing pulleys for window-sashes, in which axles are dispensed with, and a small round-edge wheel revolves by a pin, either cast or rivetted upon itself, working in a hollow groove or cavity.

12,830, Improved Sash-balance. J. McChesney and A. Cobham.

The sash-pulley which is the subject of this patent is made with a coiled spring, and when the sash is lowered, the spring is coiled up, and when it is intended to raise the sash, the force of the spring assists the movement.

NEW APPLICATIONS FOR PATENTS.

Oct. 26.—15,398, H. Planner, Disinfecting Apparatus for w.c.'s.—15,411, W. and G. Heywood, Automatically Disinfecting w.c.'s.—15,420, F. Lamacraft, Window-sashes.—15,434, W. Yuill, Drain-traps.—15,441, F. Ransome, Furnaces for Burning Cement.—15,421, W. Hucks, Sifting and Washing Sand, &c., for Building Purposes.

Oct. 27.—15,461, D. Burns and J. Cairns, Regulating and Fixing Fanlights, Ventilators, &c.—15,469, G. Beck and E. Hancock, Constructing Scaffolding, &c.—15,489, G. Jennings, Sanitary Appliances.

Oct. 29.—15,510, J. Turner, Combination Door-chain, Bolt, or Bar.—15,531, J. and A. Duckett, Water-closets.—15,541, C. Henman, Bolts or Fastenings for Doors.—15,543, E. Newton, Horticultural Buildings.—15,568, B. Richardson and E. Dickinson, Guards for Brick-making Machines.

Oct. 30.—15,576, P. Walker, Ventilating Rooms.—15,583, J. Bewick, Draught and Dust Excluder for Doors.—15,586, R. Lyon, Brick-moulding Machine.—15,601, C. Harcourt, Electric Bell-push Fittings.—15,605, L. Barber, Ladder.—15,610, J. Rothwell, Ventilating.—15,613, T. Penario, Water-waste Preventing Cisterns.—15,621, E. Lyon, Decorative Window Panes or Panels.—15,650, A. Clark, Fire-grates and Stoves.—15,653, W. Goatley and G. Burton, Window-sash Fasteners.

Oct. 31.—15,668, W. Smith, Wood-planing Machines.—15,680, H. Ames, Fireplaces.—15,722, W. Taylor, Step-ladders.—15,725, S. Worsencroft, Cowls or Ventilators.

Nov. 1.—15,745, J. Porter, Preventing Down-draughts in Chimneys, &c.—15,747, F. Baker, Draught and Dust Excluders.—15,795, P. Davies, Lead Tanks and Ventilating same.

PROVISIONAL SPECIFICATIONS ACCEPTED.

12,350, J. Elwell, Portable Covering or Roof.—13,158, J. Lawson, Heating Buildings.—13,393, R. Hocking, Self-flushing Apparatus for Sewers, Drains, &c.—13,448, A. Caldwell, Regulating the Flow of Water in Dwelling-houses, &c.—13,505, T. White and J. Beal, Gas-pipe Hooks.—13,509, J. Shanks, Syphonal Cisterns for Water-closets.—13,531, H. Sharman, Window-sash Fastener.—13,562, J. Hartford, Sewer Pipes.—13,743, J. Howie, Water-closet Basins.—13,768, R. Stone, Bricks, Tiles, &c.—13,906, J. Cook, Drain-pipes, &c.—13,909, J. Jackson, Water-closet Cisterns.—14,237, R. Seabury, Speaking Tubes.—14,258, J. Oates, Machinery for Cutting the Edges off Paper previous to Hanging.—14,286, J. Ransome, Artificial Stone and Concrete Blocks.—14,358, W. Bishop, Slow-combustion Stoves.—14,418, A. Ransford, Automatically Lighting Starlights, Gasaliers, &c.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

14,184, J. Fairbairn and R. Jones, Door and Window Fasteners.—17,919, D. Heys, Balancing Weights for Windows, Doors, &c.—1,062, G. Verini, Chimney-pots, &c.—2,410, R. Lowe, Combined Scullery Sink, Pipe, and Trap.—12,325, W. Yelland, jun., Sash-fasteners.—14,014, J. Jones, Attaching Cords to Sash-windows.—14,104, E. Dickinson and F. Kindermann, Ventilating Appliance.—14,159, N. Hepworth, Shop-fronts.—14,166, L. Boutin, Chimneys and Ventilators.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

OCT. 25.

By D. SMITH, SON, & OAKLEY (at Abergavenny).

Abergavenny—"The Coldbrook Park Estate" Ground-rents of £20. 14s. 6d., reversion in 66 years	£720
Freehold land, 2. 0r. 31p.	400
A freehold range of stabling	500
Enclosures of land, 7a. 2r. 2p., freehold	750
"Ysbytty Farm," 85a. 0r. 19p., freehold	5,500
"Ffos Farm," 107a. 1r. 35p., freehold	2,000
"Tyr-Pwll Farm," 105a. 3r. 9p., freehold	2,900
"Great Herdwick Farm," 96a. 3r. 1p., freehold	5,500
"Lower Llanfoist Farm," 153a. 3r. 24p., freehold	6,600

OCT. 29.

By G. A. WILKINSON.

Soho—34 and 36, Wardour-street, freehold	2,600
23, Gerrard-street, freehold	1,750
Streatham Hill—1 and 2, St. Ann's-place, 37 years, ground-rent £24	860
4, St. Ann's-place, 40 years, ground-rent £11. 5s.	460
A plot of leasehold land, in rear	240

By BAXTER, PAYNE, & LEPPER.

Beckenham—"Acton Lodge," 69 years, ground-rent £6	1,350
New Cross—21, Pepy's-road, 69 years, ground-rent £10	350

By R. PRICE.

Clapham—133, Manor-street, 26 years, ground-rent £4. 15s.	230

By J. R. EVE.

Bedford, near—Several cottages, and 4a. 1r. 8p., freehold	620
Two cottages, with gardens	129
Freehold enclosure of woodland, 17a. 0r. 28p.	300

By BROWN & FOULKES (at Berkhamsted).

Berkhamsted, King's-road—A plot of freehold land	250

OCT. 30.

By SHERRIN & COLTMAN.

Notting Hill—302, Portobello-road, 76 years, ground-rent £8	125

By WALTON & LEE.

Horsham, near—"The Baynard's Park Estate," of 1,518 acres, freehold	39,000

By E. ROBINS & HINE.

City—103 and 104, Aldersgate-street, freehold	3,550

By JONES, LANG, & CO.

Canonbury—3, Douglas-road, 58 years, ground-rent £10	335

By DEBENHAM, TEWSON, & CO.

Paddington—Ground-rent of £20, term 50 years	400
Watford, near—An enclosure of land, 4a. 2r. 0p., freehold	400
Two cottages with gardens, freehold	280

By Reynolds & Eason.

Poplar—15 to 22, Sophia-street, freehold; 1 to 10, Batson-street, Limehouse, 47 years, ground-rent £50; 85, Well-street, and 1 to 6, Palace-road, Hackney, 67 years, ground-rent £16; 2 to 12 even Church-street, and 1 to 4, Abbey-road, 37 years, ground rent, £80; 79 and 81, Gurney-road, Leytonstone, 86 years, ground-rent, £10. 10s., in one lot 3,750
Tottenham, Philip-lane—The freehold residence, "Rodborne" 1,230
Stratford—Ground rents of £71 a year, reversion in 70 years 1,995
1 to 13, Walton-terrace, freehold 2,150
Poplar—115, High-street, copyhold 170
Islington—19, Cloudesley-road, 6 years, ground-rent £4. 16s. 6d. 75

By C. G. Coles & Co.

Harrow-road—26, Alfred-road, 59 years, ground-rent £5 380
7, Senior-street, 71 years, ground-rent £7. 1s 6d. 370
47 and 65, Westbourne Park-crescent, 71 years, ground rent £16 870
33, Westbourne-terrace, N., 62 years, ground-rent £12 430
Nos. 300, 302, and 304, 70 years, ground-rent £45 3,370
1 to 9 odd, Woodchester-street, 70 years, ground-rent £47 2,200
2, Westbury-road, freehold 580
43, Burlington-road, 71 years, ground-rent £10. 10s. 550
20, Artesian-road, 58 years, ground-rent £10. 10s. 540
7 to 11, Chichester-place, 70 years, ground-rent £32 1,760
1, 2, and 3, Cirencester-mews, 69 years, ground-rent £13 840
4 and 6, Cirencester-street, 69 years, ground-rent £20 1,020
Burry-terrace—ground-rents of £15, reversion in 70 years 370
Westbury-road—Ground-rents of £34. 10s., reversion in 62 years 845

Oct. 31.

By A. Watson.

Old Ford—1 to 7 odd, Roman-road, 68 years, ground-rent £16. 10s. 1,410

By Chinnock, Galsworthy, & Co.

Fenchurch-street—Ground-rent of £1,256, reversion in 66 years 33,000
Portland-town—Improved ground-rent of £52, term 13 years 510
126 and 128, High-street, 13 years, ground-rent £8..... 80

By C. R. Cross.

Notting hill—53, St. James's-square, freehold 740

By L. Farmer.

Kilburn—232, High-street, 93 years, ground-rent £40 1,225
304, High-road, 94 years, ground-rent £35 1,145

By D. Smith, Son, & Oakley.

Hants—The Eveley House Estate, about 461a., freehold, of which a cottage and 3a. 0r. 12p. realised 400

By C. & H. White.

Battersea—46 to 52 even, Inworth-street, 89 years, ground-rent £20 850
Lambeth—4, 5, 8, 18 to 21, Pratt-street, freehold .. 4,175
Walworth, Victory-place—A plot of freehold land... 400
A plot of building land, area 1,275 ft., let at £23 per plot.
A plot of building land, area 1,055 ft., let at £19 per plot.
Two plots of building land, area 2,390 ft., let at £18 per plot.
A plot of building land, area 843 ft., let at £27 per plot.
8 and 19, Arthur-street, 44 years, ground-rent £7 550
Newington—12 and 13, Circular-road, 12 years, ground-rent £10 400
14a, St. David's-street, 8 years, ground-rent £4... 65
Camberwell—1, Blucher-road, 73 years, ground-rent £4 315

Nov. 1.

By Perkins & Cesar.

Bermondsey—23 and 24, Marine-street, freehold ... 540

By Newbon & Harding.

Sidcup—The residence called "Woodville," 81 years, ground-rent £15 800
Canonbury—13, Alma-road, 71 years, ground-rent £9 300
Holloway—78, Tollington-road, 50 years, ground-rent £6. 6s..... 305
80, Tollington Park, 76 years, ground-rent £8. 8s. 3.5
Islington—25, William-street, 57 years, ground-rent £5..... 275
1 to 5, Milner-street, 39 years, ground-rent £45. 10s. 2,150

Nov. 2.

By Herring, Son, & Daw.

Streatham—1, Leigham-avenue, and 4 acres, 38 years, ground-rent £69 15s. 1,300

By Collins & Collins.

Spitalfields—1 to 8. Hariot-place, freehold 1,030
Poplar—9 and 10, Union-street; and 18 and 19, Providence-place, freehold 375

Builders' Exchange, Pittsburgh.—The Builders' Exchange of Pittsburgh has appointed a Committee for the purpose of selecting a site for the erection of an Exchange, at a cost of about 200,000 dols. The building is to be on plans similar to those of the Philadelphia, Boston, and Chicago Exchanges. The basement is to contain a Trades School for the education of boys to be carpenters, painters, masons, bricklayers, and for giving instruction in all the other handicrafts appertaining to the building trades. The first floor is to accommodate a banking business for the use of contractors, builders, and architects. The second floor is to be the Exchange proper, where contractors and architects may meet and make agreements, and where property owners may come and negotiate about the erection of buildings. The third floor is intended for the business meetings of the Exchange.

MEETINGS.

Monday, November 12.

Surveyors' Institution.—Opening Address by the President (Mr. E. P. Squarey). 8 p.m.

Leeds and Yorkshire Architectural Society.—(1) Address by the President, Mr. H. Perkin. (2) Distribution of Prizes. 7.30 p.m.

Tuesday, November 13.

Institution of Civil Engineers.—(1) Distribution of Medals, Premiums, and Prizes awarded at the close of last Session. (2) Mr. W. Worby Beaumont on "Friction-Brake Dynamometers." 8 p.m.

Wednesday, November 14.

St. Paul's Ecclesiological Society.—Mr. W. H. St. John Hope, F.S.A., on "The actual uses of Colours in the Mediæval Church of England." 7.30 p.m.

Liverpool Engineering Society.—Mr. T. Mellard Reade, F.G.S., on "The Advantages to the Civil Engineer of a Study of Geology." 8 p.m.

Birmingham Architectural Association.—Annual Conversazione.

Thursday, November 15.

The Arts and Crafts Exhibition Society.—Mr. Emery Walker on "Letterpress Printing." 8.30 p.m.

Edinburgh Architectural Association.—Mr. J. Crabb Watt, F.S.A., on "The Æsthetics of City Building." 8 p.m.

Friday, November 16.

Architectural Association.—Mr. A. T. Walmisley on "Arches and Vaulting." 7.30 p.m.

Institution of Civil Engineers (Students' Meeting).—Mr. E. C. de Segundo on "Experiments on Beams." 7.30 p.m.

Miscellanea.

Leeds and Yorkshire Architectural Society. — The opening meeting of this Society will be held on Monday next, November 12th, at the Queen's Hotel, when, after an address by the President (Mr. Henry Perkin), there will be a social entertainment and smoking concert, which appears to be a "new departure" in architectural societies' meetings.

Manchester Society of Architects.—The annual meeting and election of council of the Manchester Society of Architects took place on the 31st ult. Mr. W. A. Royle was re-elected President, the other members of the Council being: — Mr. Redmayne, F.R.I.B.A., Vice-President, Mr. R. K. Freeman, F.R.I.B.A., Mr. J. Murgatroyd, F.R.I.B.A., Mr. R. J. Bennett, F.R.I.B.A., Mr. H. Bridgford, Mr. J. Medland Taylor, Mr. John Ely, and Mr. Paul Ogden, A.R.I.B.A., the two latter gentlemen being hon. secretaries.

Competition: Newport Board Schools.—The Newport United District School Board having some time back advertised for designs for new schools at Spring-gardens, Newport, Mon., to accommodate 1,000 children, designs from several local architects were submitted. After several meetings of the Board, they reduced the number to two designs, these being subsequently forwarded under motto, we are informed, to a leading architect (name not mentioned), who decided in favour of the one submitted by Mr. E. A. Lansdowne, of Newport, which design the Board afterwards unanimously adopted. Tenders received for the carrying out of the work appear in this week's issue.

Manchester Students of the Institution of Civil Engineers. — The opening meeting of the fifth session of the Association of Manchester Students of the Institution of Civil Engineers was held on Wednesday evening, October 31, at the Athenæum, Princess-street, Manchester, the President, Mr. A. Jacob, B.A., M.Inst.C.E., in the chair. The Hon. Sec., Mr. A. D. Greatorex, Stud.Inst.C.E., read the President's address, in which he drew attention to the growth of civil engineering and its recognition by the public, and as belonging to the learned professions; also to the great works executed by our ancestors. After a few remarks by Mr. R. Vawser, M.Inst.C.E., P.P., and Mr. W. T. Olive, Assoc.M.Inst.C.E., a vote of thanks was unanimously passed to Mr. Jacob for his address. The first visit of the session took place on Saturday afternoon, November 3rd, when, by the kind permission of Mr. E. Leader Williams, M.Inst.C.E., Vice-President, a visit was paid to the Salford Section of the Manchester Ship Canal, over which the members were conducted, in the unavoidable absence of Mr. Williams, by Mr. Jno. Kyle, M.Inst.C.E., Resident Engineer, who explained the various details of the work. On the motion of Mr. Jacob, seconded by Mr. C. S. Allott, M.Inst.C.E., and supported by Mr. W. A. Royle, President of the Manchester Society of Architects, a vote of thanks was passed with acclamation to Mr. Williams and Mr. Kyle for the afternoon's visit.

Liverpool Engineering Society. — A meeting of the Liverpool Engineering Society was held last week at the Royal Institution, Liverpool, Mr. C. H. Darbishire, Assoc.M.Inst.C.E., in the chair, when a paper was read by Mr. R. S. Wyld, M.Inst.C.E., on "The Laying of Large Mains." The author, after referring to the ancient aqueducts, stated that the power to construct iron pipes had only been obtained within the past century. He referred to the different materials of which a main might be constructed, and adduced arguments in favour of cast iron, stating that the larger the main the more water was delivered relatively to the weight of the iron employed. He referred to various means of transit over rough ground, and appliances for laying large pipes in the trenches. The necessity for sluice drains in every hollow, and an air-cock at every summit, was dilated on, preference being expressed for a simple hand air-cock, with additional aperture always open, permitting a slight leak, but preventing any accumulation of air. Drawings of some of the works on the Vyrnwy Aqueduct were shown by the courteous permission of the engineer, Mr. G. F. Deacon, M Inst.C.E., to illustrate the manner in which such obstructions as rivers, railways, and canals were overcome.

Society of Arts.—The 135th Session of this Society will commence on Wednesday, the 21st of November, with an Opening Address by the Duke of Abercorn, C.B., Chairman of the Council. Previous to Christmas there will be four ordinary meetings, in addition to the opening meeting. At the first ordinary meeting of the Society a paper will be read by Colonel Gouraud, on "The Phonograph." This will be followed by one by Mr. Henry Edmunds, on "The Graphophone." At the other two meetings to be held before Christmas the papers will be by Mr. W. H. Deering on "Explosives," and by Mr. W. J. Dibdin, on "Standards of Light." Among the papers announced for the latter part of the session may be mentioned—"Manufacture of Sèvres Porcelain," by Mr. E. Garnier (Director of the Sèvres Manufactory); "The Forth Bridge," by Mr. Benjamin Baker; "The Channel Tunnel," by Colonel Hozier; and "Secondary Batteries," by Mr. W. H. Preece, F.R.S. The first course of Cantor lectures will be by Captain W. de W. Abney, C.B., F.R.S., on "Light and Colour"; the other lecturers will be Mr. Alan S. Cole, Mr. W. J. Linton, Mr. Walter Crane, Mr. C. V. Boys, F.R.S., and Mr. H. Graham Harris.

The English Iron Trade.—The English iron market, notwithstanding the advanced season and the late unfavourable influences, keeps steady, on the whole, a moderate trade being done in pig-iron, with a well-sustained demand for finished iron and steel. Although the Scotch warrant-market has been quiet, rates have kept tolerably steady, but prices quoted by Scotch makers are somewhat irregular. Pig-iron in the North of England is very firm, notwithstanding restricted business, and the same remark applies to the Lancashire crude iron trade. Hematite iron is slightly weaker in the north-west, there being less pressure on the part of buyers, and the quotation has receded 9d. a ton, or to 44s. 6d. net, f.o.b., for mixed numbers of Bessemer. The outlook in the pig-iron market of Staffordshire is hopeful. Manufactured iron is very strong, although the inquiry is a shade less active. Tin-plates are quoted about 3d. a box lower, but the demand continues good. The steel market has not changed much, trade being, on the whole, good. Shipbuilders keep busy, and are securing fresh orders. Engineers are well employed.—*Iron.*

Devonshire Properties for Sale.—The Worth Estate, situated in Washfield and Tiverton parishes, will be offered for sale by auction, at Tiverton, on the 13th inst. The entire estate, to be divided, if desired, into twenty-two lots, covers rather more than 900 acres, yielding an annual rental which is estimated at 1,585*l.*; and it contains beds of manganese and iron ore. Besides various farms and dairies, the several lots include the Great Beauchamp farm, some cottage holdings, Little Beauchamp homestead, and the old manor-house at Washfield. The Exe runs through a portion of this property, and in the village are a few good building sites, comprised in the sale, which have a wide view over the river's valley. A sum of 5,000*l.* is asked for the freehold, with timber, fixtures, &c., of Secktor Hall, less than one mile from Axminster, together with its appurtenant smithies, eight cottages, and sixty acres of pasture and woodland, the latter providing good shooting and trout-fishing.

Cardigan Estates, Leeds: First Portion.—We lately adverted* to the contemplated sale, by the late Lord Cardigan's trustees, of Kirkstall Abbey, and its grounds of twelve acres. Next December will be offered for sale by auction at Leeds, by Messrs. Chinnock, Galsworthy, & Chinnock, a large number of properties belonging to the Cardigan estates. These comprise the Abbey House at Kirkstall, which formed the northern and chief gatehouse to De Lacy's Cistercian abbey there, and became, at the surrender, the last abbot's residence; some freeholds, being 422 acres in all, at Burley and Headingley, including Cardigan Fields by the Aire, Woodlands, Batty Wood, overlooking the Meanwood Valley, the Grove spinning-mills with the Ganister stone-crushing mills, Abbey View, and various farms; some farms (about 910 acres in all) in the townships of Drighlington, Gildersome, and Farnley, in the neighbourhood of Leeds, with Park Spring Woods and its extensive stone beds; other farms, holdings, garden lands, and wharfs (492 acres) in Bramley, Kirkstall Hall, and the quarry at Bramley Fall Wood; various building sites and tenements around Kirkstall and Horsforth, with the Woodside paper-mills (330 acres); and certain freehold ground-rents, amounting to 913*l.* per annum, secured upon divers residences, mills, inns, market gardens, and the like, situated at Bramley, Kirkstall, Burley, and Headingley,—all these latter being within the borough of Leeds, and including almost the entire village of Kirkstall.

Plumbers' Work at Newcastle-on-Tyne. On Monday the Princess Louise opened the new College, and inspected the specimens of work done by apprentice plumbers. The Master of the Worshipful Company of Plumbers of the City of London (Mr. W. H. Bishop) explained to Her Royal Highness the work which the Company was undertaking in connexion with the technical education of plumbers. He said that the Corporations of Newcastle and Gateshead, as well as the plumbers of those towns, were among the first supporters of the movement for the registration of competent plumbers; and by the joint action of those bodies practical classes have been carried on during the past two years under the personal direction of a committee of plumbers.

Presentation of a Fountain to the City of Glasgow.—At the meeting of the Glasgow Town Council on the 30th ult., it was announced that Messrs. M'Dowall, Steven, & Co. had offered to present to the Corporation the large and elaborate fountain which at present stands in the Exhibition grounds, nearly opposite the Kelvin-grove Park Museum Buildings. Messrs. M'Dowall, Steven, & Co., in their letter offering the gift, suggested that the fountain should be allowed to remain in its present situation, which they considered to be admirably suited for it. The Lord Provost said he thought it was only right that they should record in the minutes of the Council a vote of thanks to Messrs. M'Dowall, Steven, & Co., for their valuable gift,—a gift which was a good specimen of Glasgow work.

The New Palace of Christiansborg at Copenhagen.—The commission appointed for considering the designs and estimates for the new Palace of Christiansborg at Copenhagen, on the site of the old one destroyed by fire some years ago, has decided upon awarding premiums for three of the five designs sent in for final competition,—viz., one of £280, and two of £170 each. The commission, being unable to accept any one design in its entirety, has decided upon not awarding the first premium of £550 offered for this purpose.

Berlin.—A new concert-room, called the "New Philharmonic," has just been opened here. There is room for 2,900 persons,—namely, for 2,500 spectators and 400 performers. Mr. Franz Schwechten was the architect.——On the accession of a new monarch the municipality usually presents a gift to the sovereign. In the present case this will take the form of a magnificent fountain in bronze, with allegorical figures of the four principal rivers of Prussia. The site has not yet been definitely fixed. The model, which is ready for casting, is by the sculptor, Prof. Reinhold Begas.

Improvements at Naples. — A Naples journal states that the Municipal authorities of that city have decided upon some great improvements. A large number of the old parts and rookeries of the town are to be pulled down, and new quarters erected on the sites. All the houses at Castel Nuovo, too, are to come down. The work will be extended over ten years.

* *Builder*, Aug. 18, 1888.

New Board Schools, Loughton, Essex. A new Board School for 360 boys was opened here on the 22nd ult. The buildings comprise a general schoolroom, 93 ft. by 22 ft., lighted by large and lofty windows, along one side and one end; three class-rooms opening out of it, each 30 ft. by 22 ft.; a master's room and a cloak-room, boiler-room, and store-rooms in the basement. As the ground falls from front to back a covered playground is formed below the whole area of the largest room. The walling is of picked stocks and of local red bricks, with dressings of hard-pressed bricks from Birmingham. Where there is reason to expect most wear and tear, the corners of the jambs and piers are formed of Staffordshire rounded blue bricks. The roofs are covered with Reading tiles. A specially-arranged system of inlet and outlet ventilation is adopted in the school-room and class-rooms. The heating, on the low-pressure system, has been undertaken by Messrs. J. Jones & Sons, of Farringdon-street, E.C. The builders are Messrs. Everett & Son, of Colchester, and the architect is Mr. James Cubitt. The contract for the buildings, including drainage, boundary-walls, and the formation of a large play-ground, amounted to 2,950*l.*

Salt Water for Street-watering and Sewer-flushing.—The Town Council of the Borough of Bootle-cum-Linacre, at their last meeting, adopted the recommendation of the Health Committee, that a service of salt water be provided for street-sprinkling and sewer-flushing, and that the sum of 3,000*l.* be borrowed for the purpose, and that the Borough Surveyor be authorised to carry out the works set forth in his reports to the Health Committee. A supply of salt water was provided about twelve months ago to supply the Public Baths, and the present proposal is to extend the pipe lines throughout the more important streets of the borough, and to erect, on the highest available ground, a tank to contain 50,000 gallons of water, which will give a sufficient pressure on the hydrants, and will provide a sufficient quantity of water between the intervals of pumping. The whole of the works of the original scheme, as well as the proposed extension, have been designed by the Borough Surveyor, Mr. W. N. Blair, Assoc.-M.Inst. C.E.

House Building in the Metropolis since 1849. — Sir Charles Warren, in his annual report on the Metropolitan Police Force, which has been issued lately, cites some interesting figures as to the enormous number of houses which have been erected, and the great increase of the population which has taken place in the metropolis since 1849. The figures are given with the view of showing that there is at present an urgent necessity for a very material increase in the strength of the force. The Commissioner says that since the year 1849, when the authorised strength of the force was only 5,493, there have been built 500,852 new houses, while 3,403 are now in course of erection; 1,833 miles of new streets have also been added, to the charge of the police, and the population has increased from 2,473,758 to 5,476,447.

The Sound Tunnel.—In accordance with the report of the Commission appointed for the consideration of the Sound Tunnel scheme, the Danish and Swedish Governments have refused to grant the concession for its construction applied for by a Frenoh syndicate. The chief reason of the refusal was that, whilst the interest annually on the capital required for its construction would amount to about 45,000*l*, the utmost receipts would not exceed, it was shown, 30,000*l.* a year, so that the tunnel would require a heavy annual subsidy.

The Baltic-North Sea Canal.—The work on the canal which is to connect the North Sea with the Baltic is being vigorously carried on, but it has been discovered that the canal can hardly be completed in less than eight years. The work of excavation has been entrusted to a Dutch firm at Greenloo for a sum of 600,000*l.*, the official estimate of cost being 750,000*l.* When this canal is completed, the present Eider Canal, which has been open for 100 years, will be valueless.

Lifts.—We are informed that Messrs. Clark, Bunnett, & Co. (Limited), of Rathbone-place, are constructing three hydraulic lifts for the new addition at Guy's Hospital, and that they have also in hand hydraulic lifts for the General Post-Office, London, and the Bank of England.

The Bath Freestone Quarrying Company (Limited).—The prospectus of this new company will be found in our advertising columns this week.

A Premium of 25,000 Francs.—It will be remembered that the King of the Belgians, in 1874, founded an annual premium of 25,000 fr. for eminent services rendered to science. The prize for 1893 is to be for the best solution of the question how large cities are to be most efficiently provided with abundant supplies of pure drinking-water. In solving this question, the local conditions of Brussels are to be dealt with in the first place, but probable increases in urban populations generally are also to be taken into consideration. Works already in print will be admitted to the competition only if the new editions contain important changes and additions which, like the other prize-essays, have been published during 1889 to 1892, the period fixed for the competition. The prize-essays may be in Dutch, German, English, French, Italian, or Spanish, and must be sent in by January 1, 1893, to the Belgian Ministry of Agriculture, Industry, and Public Works. The jury, to be appointed by the King of the Belgians, is to consist of three Belgians and four representatives of other nations.

The Glasgow Exhibition is to close this Saturday, the 10th inst. At the last meeting of the Glasgow Town Council, the Parks Committee presented their minutes, detailing the results of the negotiations with the Exhibition Executive as to taking over the buildings, the Corporation undertaking to accept the same "in full implement" (which, being translated, means, "in full discharge") of the obligation of the Exhibition Executive to restore the grounds of the park to their original condition. It is assumed that the value of the buildings is about 10,000*l.*, and the cost of their demolition and the restoration of the grounds is estimated at 2,000*l.*, so that it is calculated there will be a substantial addition to make to the already-large Exhibition surplus. But the Exhibition Committee, in offering the buildings to the Corporation, expressed the hope that the Corporation might see their way to preserve intact that portion of the building which constitutes the Fine Art Section.

Jerry-building in Moscow.—The *Daily Chronicle* of Nov. 3, reports:—"In Moscow, another large building has just fallen down, but luckily without causing any loss of life. It appears that there is a good deal of 'jerry-building' going on in that town, and it is not improbable that some of the builders of these man-traps will be brought into the law courts."

International Ironmongers', Iron, and Metal Trades' Exhibition.—This Exhibition will be opened on Monday next, at 1 p.m., at the Royal Agricultural Hall, Islington. It will remain open until the 24th inst.

PRICES CURRENT OF MATERIALS.

TIMBER.	£.	s.	d.	£.	s.	d.
Teak, E.I. ..... load	8	0	0	12	10	0
Sequoia, U.S. ..... foot cube	0	2	3	0	3	0
Birch, Canada ..... load	2	15	0	4	15	0
Fir, Dantsic, &c.	2	0	0	4	0	0
Oak ,, ...	2	0	0	4	10	0
Canada	4	0	0	6	10	0
Pine, Canada red	2	10	0	3	10	0
,, yellow	2	10	0	4	0	0
Lath, Dantsic ..... fathom	3	10	0	5	0	0
St. Petersburg	5	0	0	6	0	0
Wainscot, Odessa, crown	2	10	0	3	0	0
Deals, Finland, 2nd and 1st ...std.	9	0	0	10	0	0
,, 4th and 3rd	7	0	0	9	0	0
Riga	7	0	0	8	0	0
St. Petersburg, 1st yellow	9	10	0	15	10	0
,, 2nd ,, ...	9	0	0	10	0	0
,, white	7	10	0	10	10	0
Swedish	7	10	0	16	10	0
White Sea	8	10	0	17	10	0
Canada, Pine, 1st	16	0	0	25	10	0
,, ,, 2nd	10	10	0	17	10	0
,, ,, 3rd, &c.	7	10	0	10	10	0
Canada, Spruce, 1st	9	0	0	10	0	0
,, 3rd and 2nd	7	0	0	8	10	0
New Brunswick, &c.	6	10	0	8	0	0
Battens, all kinds	5	10	0	12	0	0
Flooring Boards, sq., 1 in., prepared, First	0	11	0	0	14	6
Second	0	8	0	0	10	9
Other qualities	0	5	6	0	7	9
Cedar, Cuba ..... foot	0	0	3½	0	0	3½
Honduras, &c.	0	0	3½	0	0	3½
Australian	0	0	2	0	0	3
Mahogany, Cuba	0	0	4½	0	0	5½
St. Domingo, cargo average	0	0	4½	0	0	5½
Mexican ,, ...	0	0	4	0	0	4½
Tobasco ,, ...	0	0	4½	0	0	5½
Honduras ,, ...	0	0	4½	0	0	5½
Box, Turkey ..... ton	5	0	0	12	0	0
Walnut, Italian ..... foot	0	0	4½	0	0	6

METALS.						
Iron—Bar, Welsh, in London ...ton	4	17	6	5	0	0
,, ,, at works in Wales ...	4	7	6	4	10	0
,, Staffordshire, in London ...	5	15	0	7	0	0
Copper—						
British, cake and ingot..... ton	81	0	0	84	0	0
Best selected	82	0	0	85	0	0

METALS (*continued*).	£.	s.	d.	£.	s.	d.
Copper—Sheets, strong	86	0	0	88	0	0
Chili, bars	78	15	0	0	0	0
Yellow Metal.....lb.	0	0	7½	0	0	7½
Lead—						
Pig, Spanish .....ton	13	10	0	0	0	0
English, common brands	0	0	0	0	0	0
Sheet, English	14	15	0	0	0	0
Spelter—						
Silesian, special .....ton	19	0	0	19	2	6
Ordinary brands	18	17	6	19	0	0
Tin—						
Straits	102	5	0	0	0	0
Australian	102	15	0	0	0	0
English Ingots	104	10	0	0	0	0
Zinc—English sheet .....ton	22	10	0	23	10	0

OILS.	£.	s.	d.	£.	s.	d.
Linseed .....ton	19	2	6	19	5	0
Cocoanut, Cochin	26	10	0	27	10	0
Ceylon	25	0	0	25	10	0
Palm, Lagos	26	0	0	0	0	0
Rapeseed, English pale	30	15	0	0	0	0
,, brown	29	5	0	0	0	0
Cottonseed, refined	22	10	0	0	0	0
Tallow and Oleine	19	0	0	45	0	0
Lubricating, U.S.	5	0	0	6	0	0
,, refined	7	0	0	12	0	0
Turpentine—						
American, in casks.....cwt.	1	15	3	0	0	0
Tar—						
Stockholm .....barrel	1	1	6	0	0	0
Archangel	0	11	0	0	11	6

COMPETITIONS, CONTRACTS, & PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

COMPETITIONS.

Nature of Work.	By whom required.	Premium.	Designs to be delivered.	Page.
Drainage Scheme	Elham R. S. A.	50 Guineas	Nov. 29th	ii.
Scheme for dealing with Exhibition Buildings and Grounds	Folkestone Pleasure Gardens Co., Lim.	50*l.*	Not stated	ii.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Sewering and Making-up Roads, Footpaths, &c	Beckenham Local Bd.	G. B. Carlton	Nov. 12th	ii.
Road-making and Paving Works	Willesden Local Board	O. Claude Robson	Nov. 13th	ii.
Kerbing, Tar-paving, &c.	Lewisham Bd. of Works	*Official*	do.	xi.
Preparing for and Gravelling Footpaths	Met. Board of Works	do.	do.	ii.
Well-sinking, &c.	Hastings Union	P. H Tree	Nov. 15th	xi.
Waiting Rooms at King's Norton	Midland Railway Co.	*Official*	do.	ii.
Creosoted Fir Pale Fencing	North Woolwich Gardens Company	E. R. Gabbett	Nov. 16th	xi.
Underground Urinals, Water Closets, &c.	Commis of sewers	*Official*	do.	ii.
Additional Pavilions, &c., to Hospital	Met. Asylums Board	Pennington & Bridgen	Nov. 23rd	ii.
Laying Floors, &c	Central London School District	H. Jarvis & Son	Nov. 26th	ii.
Making-up Road	Beckenham Local Bd.	G. B. Carlton	do.	ii.
Stores and Materials	Cheshire Lines Com.	*Official*	Dec. 1st	ii.
Refuse Destructor, &c	Hastings Corporation	P. H. Palmer	do.	xi.
Footway, &c., under Thames, Blackwall	Met Board of Works	*Official*	Dec. 21st	xi.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Borough Surveyor	Harrogate Council	Not stated	Nov. 14th	xvi.
Surveyor	Wood Green Local Brd.	250*l.*	Nov. 15th	xvi.
Accountant Clerk	Civil Service Com.	Not stated	Nov. 21st	xvi.

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

BATTERSEA.—For the erection of a Central Library for the Battersea Public Library Commissioners:—

Shillitoe & Son, Bury St Edmunds	£6,199	0	0
M. Marsland, Wandsworth, S.W.	6,180	0	0
Longley & Co., Crawley	6,166	0	0
Turtle & Appleton, Wandsworth, S.W.	6,144	0	0
Stimpson & Co., Brompton-road, S.W.	6,080	0	0
J. & J. Greenwood, Dockhead, S.E.	5,998	0	0
Scharien & Co., Chelsea, S.W.	5,997	0	0
King & Son, Westminster, S.W.	5,995	0	0
W. Smith, Harleyford-road, S.E.	5,990	0	0
Perry & Co., Bow, E	5,989	0	0
John Allen & Sons, Kilburn, N.W.	5,958	0	0
W. Downs, Walworth, S.E.	5,954	0	0
Alfred Brickell, West Kensington, S.W.	5,936	0	0
J. T. Chappell, Pimlico, S.W.	5,920	0	0
B. E. Nightingale, Lambeth	5,870	0	0
Holloway Bros, Queen's-road, Battersea, S.W.	5,852	0	0
Charles Wall, Chelsea, S.W.	5,830	0	0
F. & H. F. Higgs, Loughborough Junction, S.E.	5,780	0	0
Hart Bros, Dover-street, S.E.	5,739	0	0
W. Johnson, Wandsworth-common	5,700	0	0
J. W. Hobbs & Co, Strand	5,700	0	0
Charles Kynoch & Co., Clapham, S.W.	5,645	0	0
James Holloway, Lavender-hill, S.W. (accepted)	5,600	0	0
H. Willcock, Wolverhampton	5,580	0	0
George Box, Hedingly, Sussex	5,515	0	0
Brass & Son, St. Luke's, E.C.	5,473	0	0
W. L. Kellaway, Pentonville, N.	5,176	0	0
Ward, Clarke, & Co., New Cross-road, S.E.	4,713	0	0

CHESHAM (Bucks).—For the erection of factory, &c., Waterside, Chesham, Bucks, for Mr. Jos. Reynolds, Chesham. Mr. Geo. H. Green, architect, Chesham:—

W. Harding, Chesham	£457	0	0
J. Wright, Chesham	388	0	0
H. Mead, Chesham	319	0	0
G. Darlington, Amersham	310	0	0
W. Boughton, Chesham (accepted)	294	0	0

EASTVILLE.—For warming Eastville New Church. Mr. H. C. M. Hirst, architect, 30, Broad-street, Bristol:—

John Grundy (accepted)	£110	0	0

HACKNEY.—For rebuilding the "Good Intent," Mowlem-street, for Mr. B. Williams. Mr. G. E. Holman, architect:—

G. Sharpe	£1,920	0	0
Coulsell Bros.	1,724	0	0
A. Hood	1,654	0	0
Alexander	1,649	0	0
Edwards, jun.	1,625	0	0

FOLKESTONE.—For the erection of a shop and restaurant in Sandgate-road, Folkestone, for M. Carlo Maestrani. Plans and quantities by Mr. Reginald Pope, architect, Folkestone:—

Newman, Folkestone	£2,750	0	0
Tunbridge, Folkestone	2,598	0	0
Mercer, Folkestone	2,563	0	0
Prebble, Folkestone	2,540	0	0
Petts & Son, Folkestone	2,499	0	0
Wallis & Clements, Maidstone	2,433	0	0
Brooks, Folkestone	2,417	0	0
Hayward & Co., Folkestone	2,402	0	0
Webster, Folkestone	2,400	0	0
Moody, Folkestone	2,227	0	0
Franklin, Folkestone (accepted)	2,099	0	0

HACKNEY.—For building an addition to house in Hackney-road, for Mr. Putney:—

A. Hood (accepted)	£120	0	0

HACKNEY.—For pulling down and rebuilding No. 73, Mansford street, for Mr. G. Feraee:—

A. Hood (accepted)	£245	0	0

HAMMERSMITH.—For pulling down and re-building the "Bell and Anchor" for Mr. W. Brown. Mr. Beaumont, architect:—

	Shap Granite Pilasters.	Mansfield Stone.	Old Materials.
Holloway	£6,290	£5,560	—
Cox	5,120	—	—
Lynn	5,110	4,833	—
Lascelles	4,8 0	4,525	£10
A. Hood	4,735	4,305	—
Turtle & Appleton	4,280	3,935	10
Beale	4,276	—	—

ISLINGTON.—For alterations to the "Peacock" public-house, 11, High-street, for Mr. Sturt. Messrs Wilson, Son, & Aldwinckle, architects, 2, East India-avenue, Leadenhall-street, E.C. Quantities supplied:—

W. Johnson	£3,200	0	0
Charles Cox	3,057	0	0
Andrew & Nanson	3,051	0	0
Turtle & Appleton	2,990	0	0
Hearle & Sons	2,966	0	0
John Mills	2,950	0	0
Jackson & Todd	2,949	0	0
F. W. Gill & Co.	2,947	0	0
Staines & Son	2,934	0	0
Drew & Cadman	2,916	0	0
W. Shurmur (accepted)	2,590	0	0

LONDON.—For alterations and additions to the "Royal Standard" Music Hall, Pimlico, S.W., for Mr. Richard Wake. Mr. H. I Newton, architect, 17, Queen Anne's-gate, Westminster, S.W. Quantities by the architect:—

H. & E. Lea, Regent-street	£3,887	0	0
Kirk & Randall, Woolwich	3,820	0	0
Perry & Co., Bow	3,450	0	0
S. Godden, Bryanston-square	3,420	0	0
Smith, Son, & Fletcher, Belgravia	3,383	0	0
J. Walker, Poplar	3,357	0	0
H. Burman & Son, Kennington-park	3,333	0	0
Jackson & Todd, Hackney	3,300	0	0
J. Beale, Westminster	3,184	0	0

LONDON.—For the erection of business premise High-street, Camden-town, for Mr. John Matthews. Mr Edmund J. Bennett, architect, Gravesend. Mr. W Hawker, quantity surveyor:—

Wall Bros.	£2,998	0	0
Williams & Son	2,945	0	0
Mark Patrick	2,944	0	0
Colls & Son	2,815	0	0
McCormick & Son	2,752	0	0
E. J. Burnand	2,749	0	0
Scrivener & Co.	2,733	0	0
Tomes	2,549	0	0
Gould & Brand	2,477	0	0

LONDON.—For the erection of a one-storey laundry clothing store, 58 ft. by 22 ft.; a sanitary turret to contain water-closets and fittings; two covered ways, and sanitary roof repairs, for the Guardians of the Poor of Bethnal Green. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, E C. Quantities supplied:—

Jackson & Todd	£1,579	0	0
Lake	1,398	0	0
Adams	1,383	0	0
Staines	1,346	0	0
W. Johnson	1,290	0	0
Holland	1,278	0	0
Barrett	1,276	0	0
Sherwood	1,248	0	0
Edwards	1,197	0	0
Captain & Co.	1,191	0	0
George Lusk	1,116	0	0
R. Cox	1,084	0	0
Edmonds	997	10	0

LONDON.—For new building, Shaftesbury-avenue. Messrs. W. E. & F. Brown, architects.

Thos. Bryce	£3,583	0	0
Dove Bros.	2,255	0	0
Colls & Sons	3,194	0	0
E. Lawrance & Sons	2,990	0	0
J. Woodward	2,968	0	0
Langler & Pinkham	2,965	3	0

LONDON.—For alterations and additions to No. 9, Fitzjohn's-avenue, Hampstead. Messrs. W. E. & F. Brown, architects.

W. H. Lascelles & Co.	£1,095	0	0
Langdale, Hallett, & Co.	977	8	0
Langler & Pinkham	931	16	7
Colls & Sons	926	0	0
J. Woodward	880	0	0

LONDON.—For pulling down and rebuilding No. 408, Holloway road, for Mr. H. Dell. Messrs. Scurry & Wright, architect, 6, Salisbury-street, Strand:—

Ward & Lamble (accepted)	£1,525	0	0

LONDON.—For pulling down and rebuilding No. 103, Redmans-road, Stepney, for Mr. Adams. Mr. H. J. Lanchester, architect:—

A. Hood (accepted)	£358	10	0

LONDON.—For works at 11, Buckingham Palace-road, S.W., for Mr. J. H. Read. Mr. Arthur W. Saville, architect, 86 and 87, Strand, W.C.:—

Alterations and Repairs.

Drew & Cadman	£291	0	0
Ward & Lamble	238	0	0
Spencer & Co.	224	0	0
S. Yardley & Sons (accepted)	224	0	0
Fittings.			
Bowling & Govier	235	0	0
S. Howlett	205	0	0
S. Yardley & Sons (accepted)	170	0	0

LONDON.—For alterations and repairs at "The Robin Hood," Holborn, for Messrs. Deakin & Crimmen. Mr. Arthur W. Saville, architect, 86 and 87, Strand, W.C. Quantities supplied:—

Builders' Work.

S. Goodall	£372	0	0
W. A. Rhodes	347	0	0
S. Yardley & Sons	331	0	0
Spencer & Co.	325	0	0
Walker (accepted)	300	0	0
Pewterers' Work.			
F. J. Ruse	£49	7	6
Watts & Co. (accepted)	46	14	0

LONDON.—For various sanitary alterations to 13, Devonshire-place, for Colonel Sir Charles Hamilton, Bart. Mr. F. M. Elgood, architect, 98, Wimpole-street:—

Clarke & Mannooch (accepted)	£139	15	0

LONDON.—For new drains and various sanitary alterations at No. 4, Gloucester-place, Portman-square, for Mr. A. J. Blount. Mr. F. M. Elgood, architect, 98, Wimpole-street:—

Smeaton, Son, & Co.	£239	19	6
Army and Navy Auxiliary Co.	193	0	0
Clarke & Mannooch (accepted)	185	0	0

LONDON.—For new drains and various alterations, &c., at No. 54, Montagu-square, W. Mr. F. M. Elgood, architect, 98, Wimpole-street, W.:—

Clarke & Mannooch (accepted)	£505	10	0

LONDON.—For alterations, additions, and repairs, at No. 28, Queen Anne-street, Portland-place, for Mr Joseph Mills. Mr. F. M. Elgood, architect, 98, Wimpole-street, W.:—

	General Works.	Painting Reserved.
Hall, Beddall, & Co.	£573 0 0	£46 0 0
George Shaw	442 10 0	38 10 0
J. Simpson & Son*	417 0 0	30 0 0

* Accepted.

LONDON.—For building extra storey and various other alterations and additions to No. 20, Chester-terrace, Regent's Park. Mr. F. M. Elgood, architect, 98, Wimpole-street:—

Clarke & Mannooch (accepted)	£850	0	0

MAIDENHEAD.—For additions, &c., to Sheephouse Cottage, Maidenhead Court. Mr. Frederick Wheeler, architect, 22, Chancery-lane:—

G. H. Gibson (accepted)	£475	0	0

MAIDENHEAD.—For the erection of Villa, Maidenhead Court. Mr. Frederick Wheeler, architect, 22, Chancery-lane, W.C.:—

G. H. Gibson (accepted)	£1,100	0	0

NEWPORT (Mon.).—For new schools, Spring-gardens, to accommodate 1,000 children, boys, girls, and infants, for the United District School Board. Mr. E. A. Lansdowne, architect, Newport:—

Hy. Parfitt, Cwmbran	£5,900	0	0
J. Inwood, Malvern	5,703	0	0
Gradwell, Barrow-in-Furness	5,631	3	6
J. Linton, Newport	5,485	0	0
G. Martin, Newport	5,476	0	0
Moulton & Brounscombe, Newport	5,448	0	0
G. Wilkins, Newport	5,398	0	0
A. H. Bailey, Pontnewynydd	5,300	0	0
H. A. Forse, Bristol	5,260	0	0
Wm. Price, Newport (accepted)	5,073	0	0

NEWPORT (Mon.).—For alterations and additions to house, Maindee, for Messrs. Davis Bros. Mr. E. A. Lansdowne, architect:—

H. C. Parfitt, Maindee	£130	0	0
C. Lock, Newport	118	10	0
Fifoot & Son, Maindee	115	10	0
A. Hazael, Newport	115	0	0
P. Chapman, Maindee (accepted)	115	0	0

NEWPORT (Mon.).—For alterations and additions to Endowed School, Caerleon, for the Governors. Mr. E. A. Lansdowne, architect:—

C. Lock, Newport (accepted)	£118	0	0

NEWPORT (Mon.).—For alterations and additions to Endowed Schools, Blaenavon, for the Governors. Mr. E. A. Lansdowne, architect:—

John Burgoyne, Blaenavon	£1,099	0	0
Thomas Foster, Abergavenny	1,050	0	0

RICHMOND (Surrey).—For additions, &c., to existing contract for rebuilding "Railway Tavern." Mr. Geo. Whitaker, 33a, Broadway, Hammersmith, W., architect. Quantities by Mr. T. W. Biggs, 8, Shaftesbury-road, W.:—

Patman & Fotheringham	£1540	0	0

SOUTHWARK.—For heating (by warm air) St. Peter's Church, Southwark. Mr. Ewan Christian, architect:—

John Grundy (accepted)	£120	0	0

STREATHAM.—For the erection of a residence in Aldrington-road, Streatham Park, S.W. Mr. Frederick Wheeler, architect, 22, Chancery-lane. Quantities by Messrs. Evans & Deacon, 1, Adelaide-street, Charing Cross:—

G. Jervis Smith	£2,400	0	0

STREATHAM.—For alterations to Woodfield, Amblside-avenue. Mr. Frederick Wheeler, architect:—

Hill Bros.	£225	0	0

STREATHAM.—For the erection of stable, Thrale Hall. Mr. Frederick Wheeler, architect:—

Geo. Barnes (accepted)	£200	0	0

STREATHAM.—For alterations to shop premises, High-road. Mr. Frederick Wheeler, architect:—

Hill Bros.	£298	0	0
Barnes	265	0	0

TOOTING.—For warming St. Nicholas Church, Tooting. Messrs. St. Aubyn & Wadling, architects, Lamb-building, Temple, E.C.:—

John Grundy, London & Tyldesley (accepted)	£120	0	0

WALTHAMSTOW.—For the erection of eight houses and a shop at Walthamstow. Mr. Christopher M. Shiner, architect, 15, New Broad-street, E.C.:—

Rowe	£1,600*

* Corrected amount; not £1,400 as previously stated.

WOLVERHAMPTON.—For the erection of semi-detached villas, Compton-road. Mr. Joseph Lavender, architect, Wolverhampton. Quantities by the architect:—

G. & F. Higham	£1,270	0	0
H. Willcock	1,236	16	0
Bradney & Co.	1,180	0	0
J. Jones, Dudley-road*	1,110	9	0

* Accepted, subject to alterations.

WORTHING.—For the restoration of Colonnade House, Warwick-street, after damage by fire. Mr. Alfred Broad, architect, Croydon. Quantities by the architect:—

Saunders, Croydon	£559	0	0
W. Holt, Croydon	450	0	0
A. M. Deacon & Co., Norwood	393	0	0
Smith, Worthing	391	0	0
Sawle, Worthing	378	0	0
Smith & Bulled, Croydon	360	0	0
J. O. Richardson, Peckham	354	0	0
F. R. Docking, Croydon	350	0	0
Crouch, Worthing (accepted)	325	17	0

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W. Y. B. (you had better save yourself the expense and trouble of sending MSS. here. You have been more than once told that they are not wanted and will not be used).—R. H. R. (we cannot continue the discussion).—H. A. (next week).

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news-items) which have been duplicated for other journals, are NOT DESIRED.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; all communications relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

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DOUGLAS FOURDRINIER, Publisher,
Addressed to No. 46, Catherine-street, W.C.

Advertisements for the current week's issue must reach the Office before THREE o'clock p.m. on THURSDAY, and for the Front Page by the same Hour on WEDNESDAY.

SPECIAL.—ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before TEN o'clock on WEDNESDAY mornings.

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PERSONS Advertising in "The Builder," may have *Replies addressed to the Office,* 46, Catherine-street, Covent Garden, W.C. *free of charge.* Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage

AN EDITION Printed on THIN PAPER, for FOREIGN CIRCULATION, is issued every week

Now ready.

READING CASES, { NINEPENCE EACH. By post (carefully packed), 1s.

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121, BUNHILL ROW, LONDON, E.C.

Telephone No. 270.

HIGH-CLASS JOINERY.

LASCELLES' CONCRETE.

Architects' Designs are carried out with the greatest care.

CONSERVATORIES,
GREENHOUSES,
WOODEN BUILDINGS,

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CORSHAM DOWN. | FARLEIGH DOWN.

BOX GROUND. | COMBE DOWN.
WESTWOOD GROUND. | STOKE GROUND.

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HEAD OFFICES: BATH.

DOULTING FREESTONE.

THE CHELYNCH STONE. The stone from these quarries is known as the "Weather Beds," and is of a very crystalline nature, and undoubtedly one of the most durable stones in England.

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Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds, and milk-rooms, graneries, tun-rooms, and terraces. [ADVT.

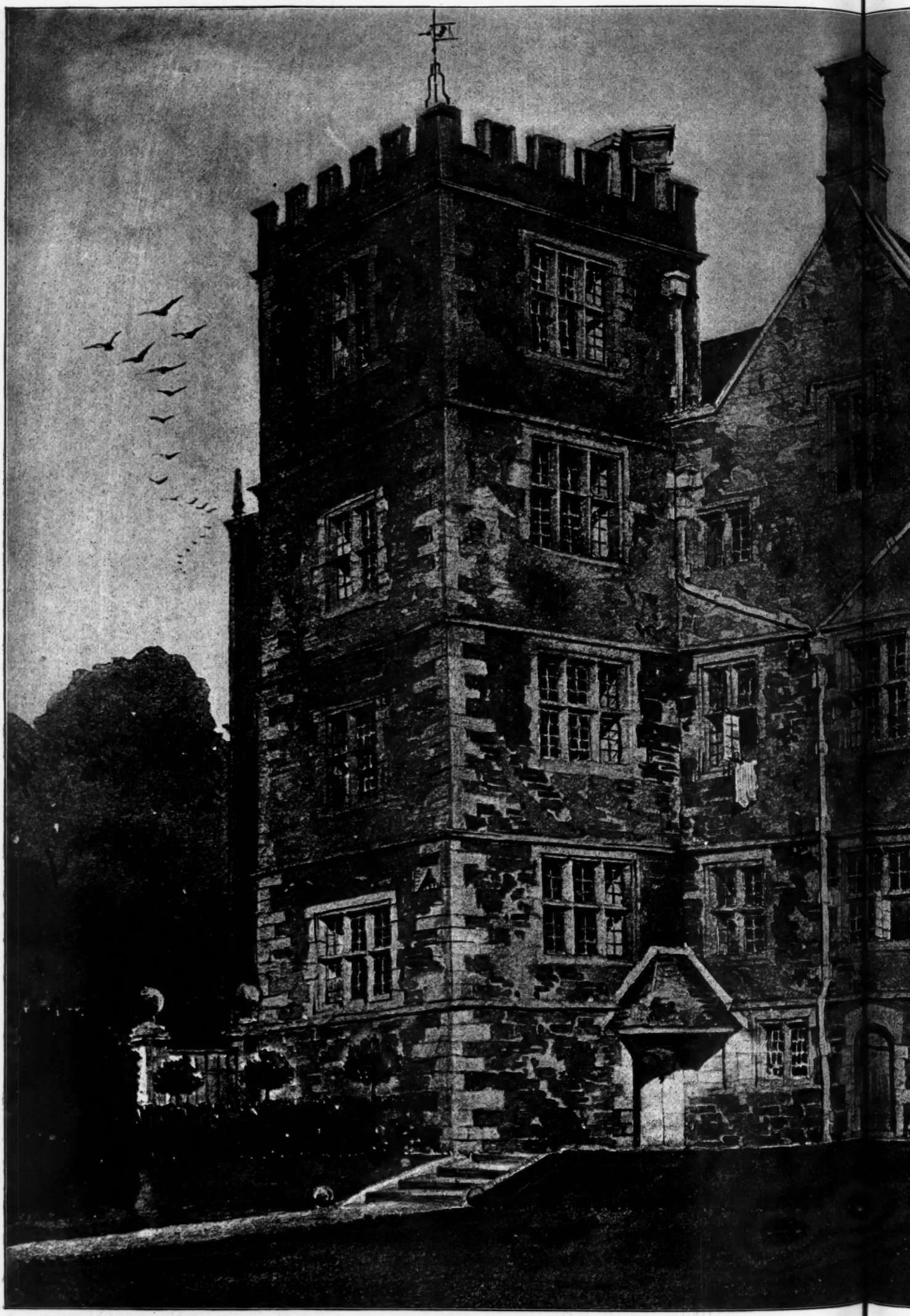
Asphalte.
Seyssel, Patent Metallic Lava, and White Asphaltes.
M. STODART & CO.,
Office:
No. 90, Cannon-street, E.C. [ADVT.

SPRAGUE & CO.,
PHOTOLITHOGRAPHERS,
22, Martin's-lane,
Cannon-street, E.C. [ADVT.

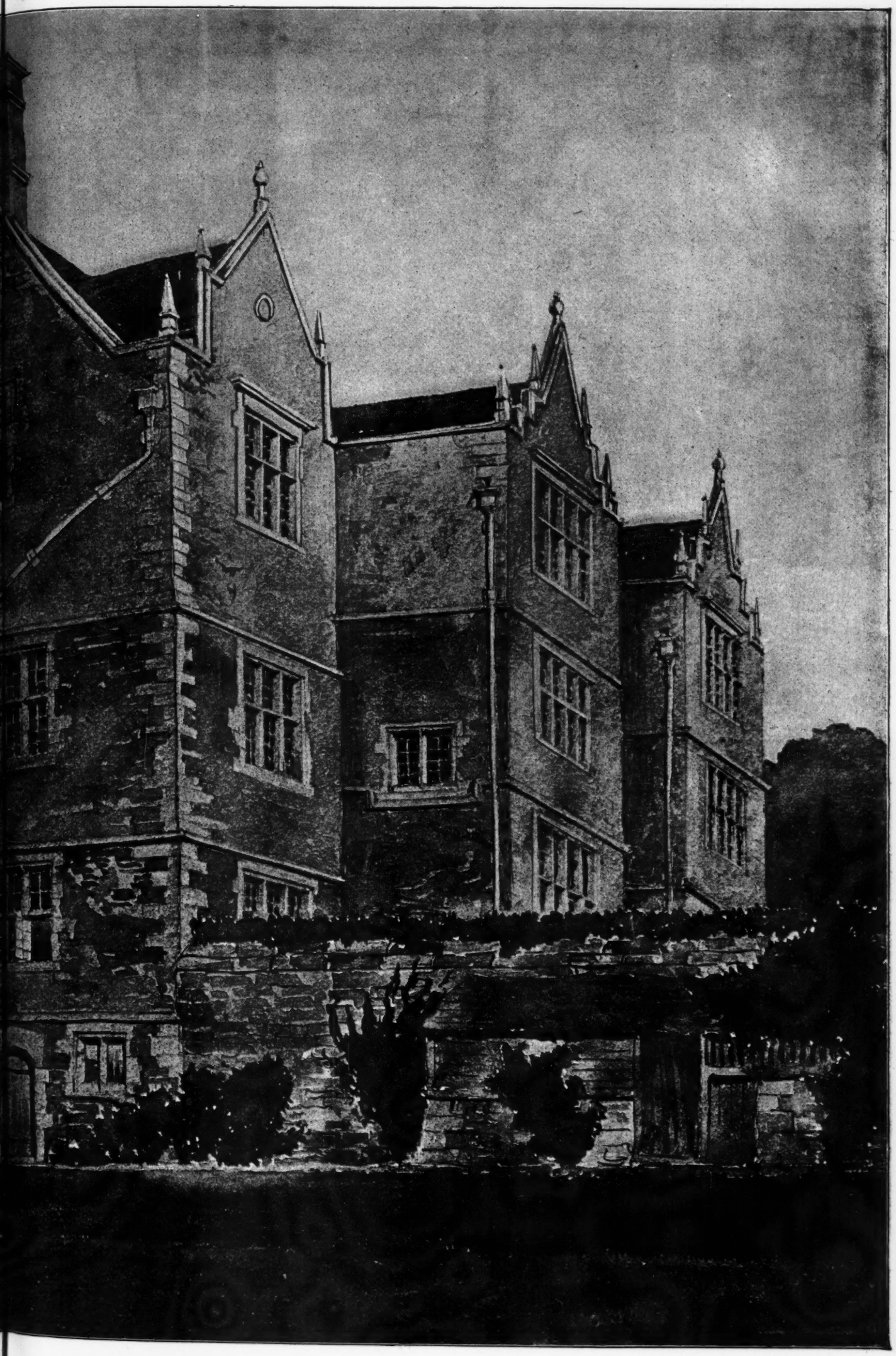
MICHELMORE & REAP,
Manufacturers of

COLLINGE'S PATENT HINGES, LEVER, SCREW, & BARREL BOLTS,
Self-Acting "FALL DOWN" GATE STOPS, and IMPROVED GATE FITTINGS of every Description.
36A. BOROUGH ROAD, LONDON, S.E.
PRICES REDUCED. LIST SENT ON APPLICATION.

SHORT TIME CONTRACTS
Can be carried out easily by using our Lamps.
YOU CAN
WORK ALL NIGHT
AT MUCH LESS COST THAN BY GAS. ✣ NO STEAM OR AIR-PIPES REQUIRED.
Entirely Self-Contained. Portable. Very Cheap.
There are still a few districts in which we are not yet represented. Correspondence invited.
F. BRABY & CO., 352 TO 362, EUSTON ROAD, LONDON, N.W.



CHASTLETON MANOR HOUSE, OXFORDSHIRE.



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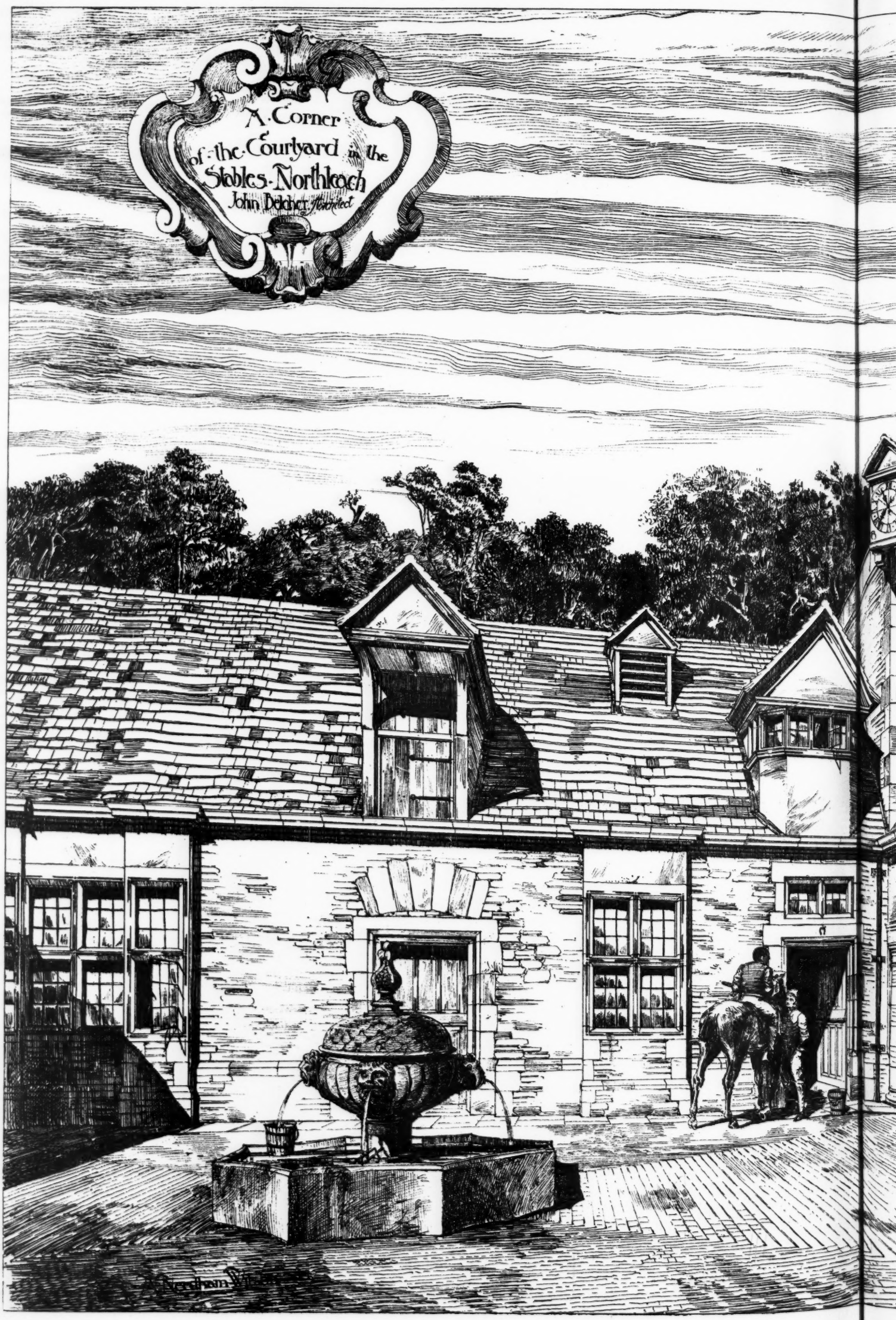
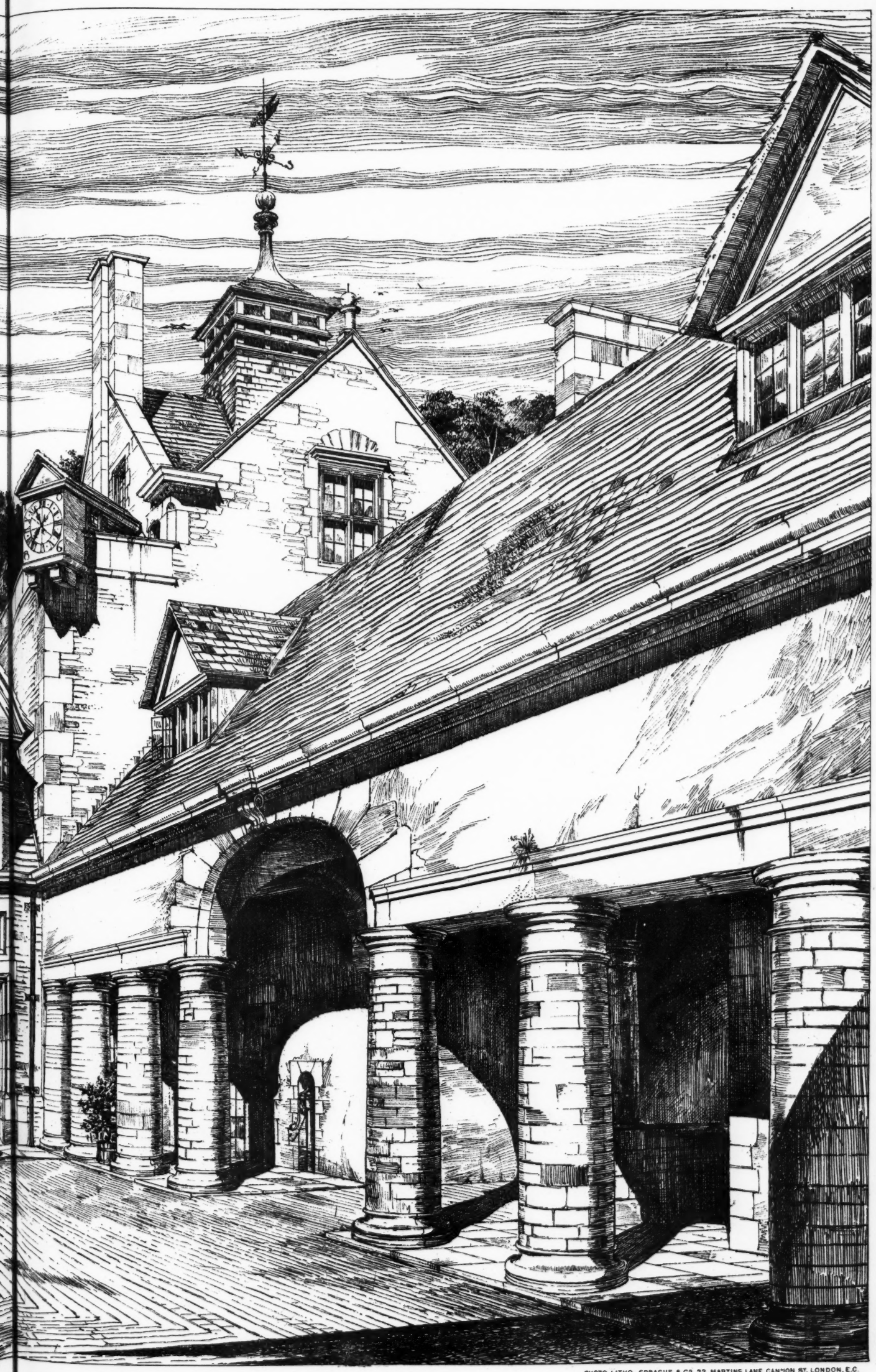

A Corner
of the Courtyard in the
Stables Northleach
John Belcher Architect



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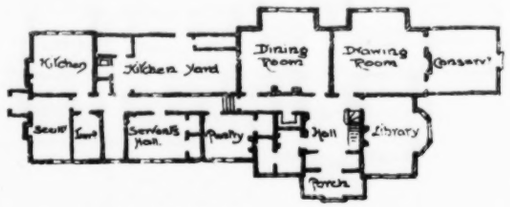
"Hernbrook" Horsham
The Residence of W. B. Sandeman Esq^re
Charles Barry · Architect



·Plan · of · Ground · Floor:

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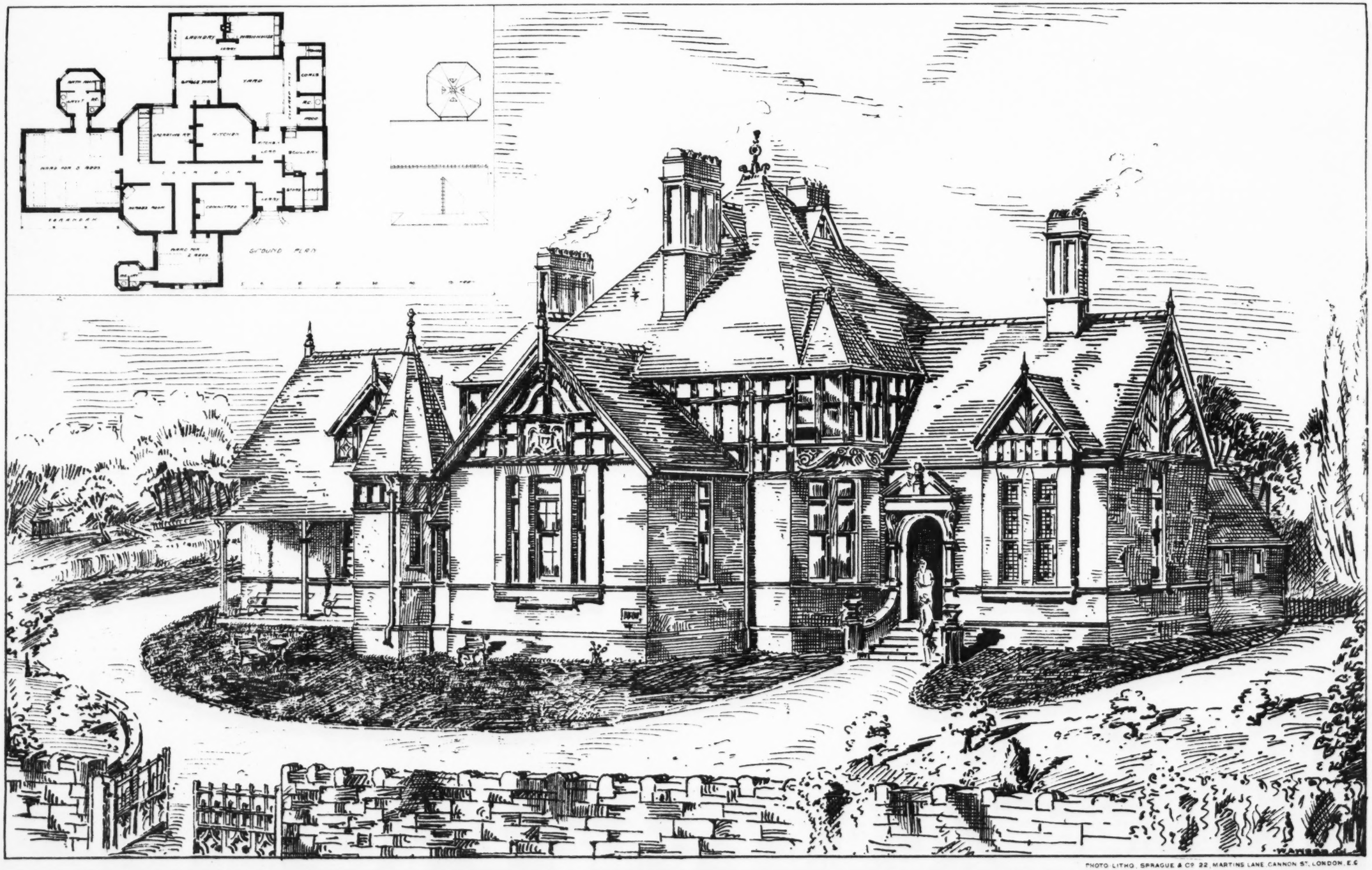

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COTTAGE HOSPITAL, RUABON.—Mr. W. H. Spaull, Architect.